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# Wartime Medical Requirements: Profiles and Requirement Determination Processes

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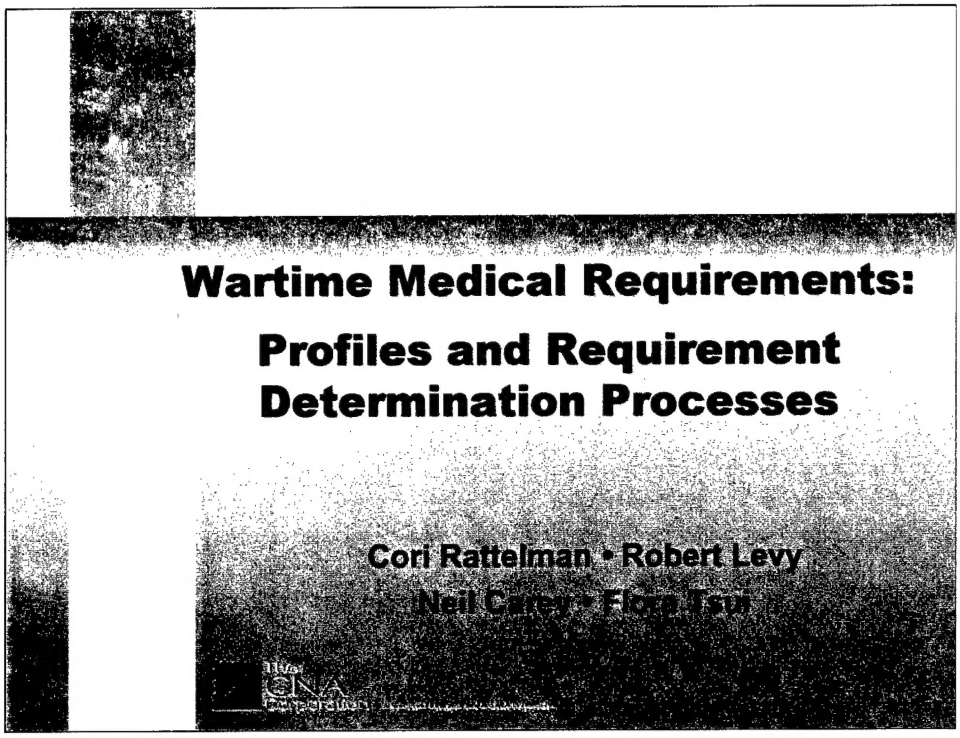
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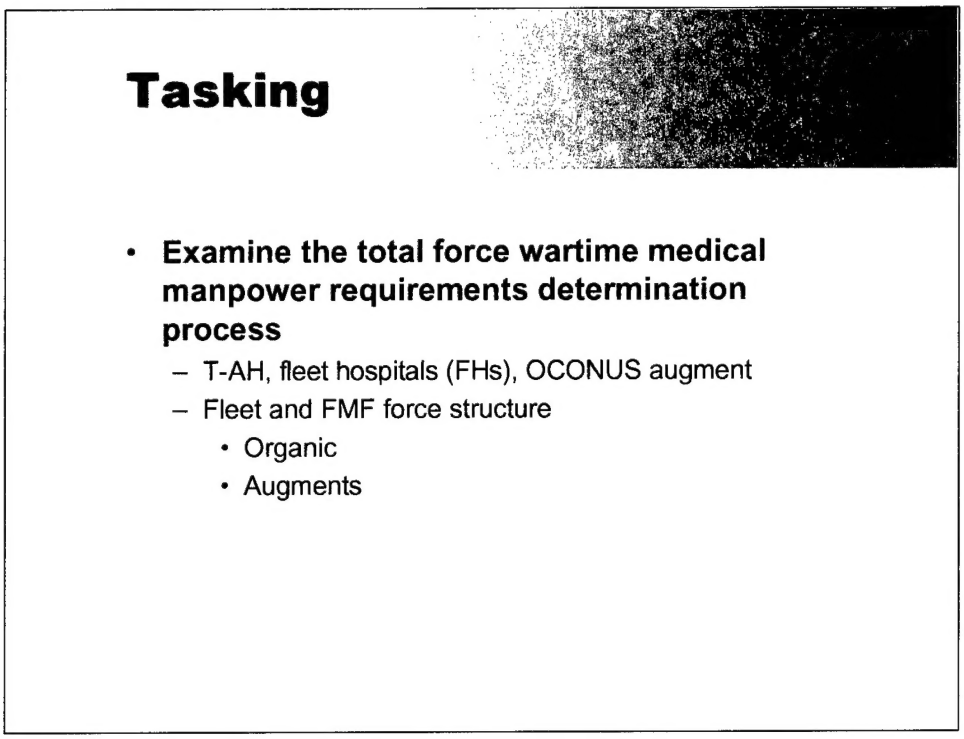
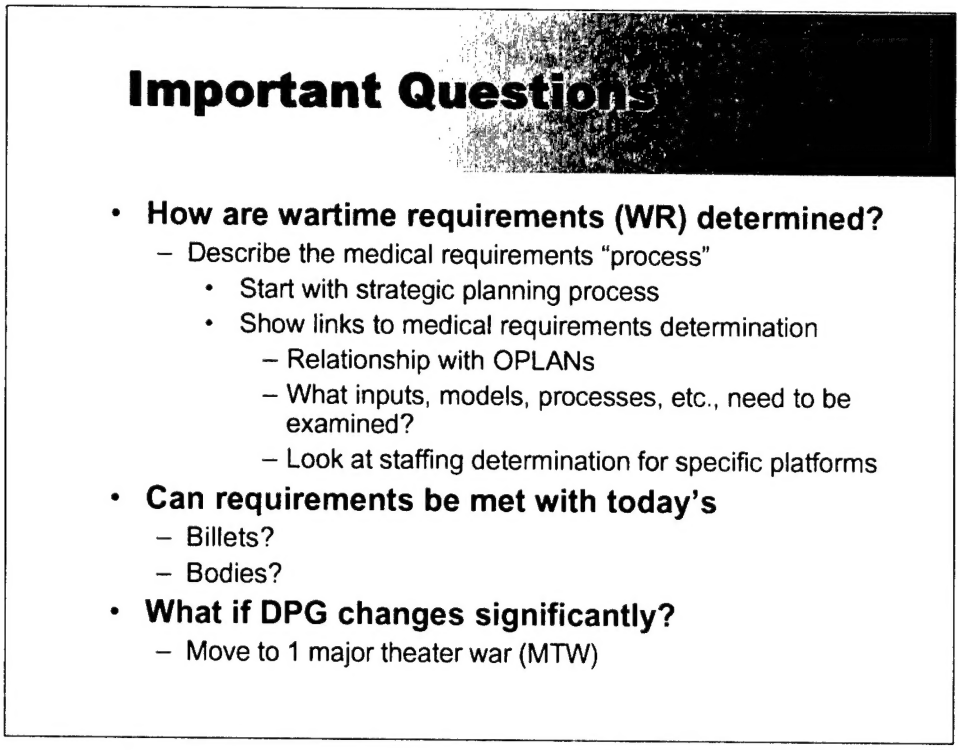



CNA was tasked by N-81 as part of the Integrated Warfare Architectures (IWARS) program to examine and assess the process that determines the wartime medical manpower requirement.

Our analysis examined the processes leading to the determination of wartime medical manpower for a specific set of wartime platforms. We examined the processes for staffing the Navy's hospital ships (T-AHs), fleet hospitals (FHs), and the OCONUS[1] military medical treatment facility (MTF) augment, which are commonly referred to as level III medical care. We also examined how the medical manpower requirements for the fleet and Fleet Marine Force (FMF) are determined. This included a review of the organic force structure assets (which we studied for the 2000 IWARS program), in addition to force structure augmentation to the fleet and FMF (with primary focus on L-class ships, such as LHA and LHD).

This annotated briefing presents the results of our analysis.

1. OCONUS stands for outside the continental United States.




We've organized our analysis to answer these three important questions. First, how are the medical requirements determined? We begin with the requirements process and show how the DOD's and the Navy's strategic planning processes are linked to the medical manpower requirement. We wanted to show the relationship between the CINCs' OPLANs and the medical requirement. The Defense Planning Guidance (DPG) that is part of DOD's strategic planning states the overall objectives that the services must meet, which also includes medical readiness. As we'll describe, the DPG is used in the programming side of medical requirements, not on the planning side used to conduct today's operations. Nonetheless, the OPLAN and requirements have direct links, such as, the models that are used to relate a stylized version of the MTW into the bed requirement and ultimately the manpower requirement for each of the wartime platforms. These models rely on inputs, including casualty planning methodology and being able to support a 15-day theater evacuation policy.

The second question we answer is whether the requirement, as determined by the Navy medical department's programming process, can be met by (1) the current fiscal year (CFY) authorizations as given in the billet file and (2) the "bodies" that exist today.

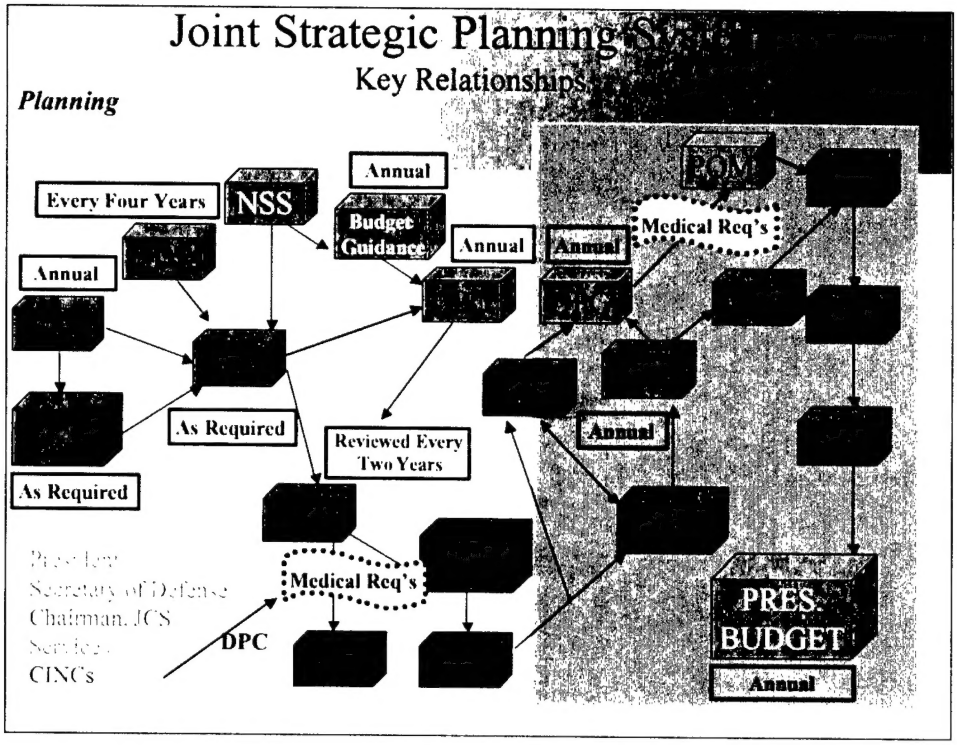
The third and final question we examine is, using the current requirements determination processes, can one effectively evaluate the anticipated impact on medical wartime requirements as a result of (1) changes in the DPG, such as moving to 1 major theater war, or (2) other policy decisions, such as increasing the acceptable level of risk associated with shifting medical requirements from AD to reserves?

## Bottom Line

- **Overarching questions**
  - Does the process work?
  - Can Navy leadership trust the outcome?
- **Findings**
  - CNA believes the process is reasonable and supportable
  - Ties requirements to operational planning
  - Some problems
    - Staffing of platforms not well documented
    - Billet file always has problems and is always being "fixed"
    - In total (for WR), may be sufficient personnel, but specialty mix falls short

By answering the three questions outlined on page 2, we feel that we can respond to the overarching questions: (1) Does the process work? (2) Can Navy leadership trust the outcome? In other words, once the DPG changes, can one expect that the Navy's wartime medical requirements process and the resulting medical staffing are derived in an appropriate manner?

We believe that, for the most part, the processes are reasonable and supportable. Yet, despite direct ties between the OPLANs and the requirement, some problems remain. Although there are links between the bed requirement and the resulting staffing on each platform, exactly how the staffing was derived has not been well documented. Second, the Navy relies on a combination of notional staffing plans and the billet file to build its medical wartime requirement. We believe that relying on the billet file to construct any portion of this requirement is problematic. The billet file is constantly in flux and contains significant error, making it an unreliable source and subject to interpretation. There should be a purely notional medical requirement, independent of the billet file, which could/should be reconciled periodically with the TFMMS billet file to determine if differences between the two sources reflect errors in the billet file or substantiated changes that should be incorporated into the wartime requirements model. Finally, our examination of "bodies" has shown that the total number of personnel may be enough to meet the requirement; however, that may not be the case for specific specialties needed to treat battle casualties.




We begin by examining the strategic planning process.

Here we abstract from a Joint Chiefs of Staff (JCS) presentation to illustrate the planning and programming processes. On the planning side, the national command authority sets the National Security Strategy (NSS). The Quadrennial Defense Review (QDR) provides input to the National Military Strategy (NMS), which describes the forces, options, and assessments, and evaluates the risks faced by the U.S. around the world. The NMS and the Contingency Planning Guidance (CPG) feed directly into the Joint Strategic Capabilities Plan (JSCP) that provides guidance and tasking for war planning, which the CINCs then develop into specific OPLANs for each MTW.

The left-hand side of the figure shows one of two placeholders representing the determination of medical requirements. An arrow representing the CINCs' Deliberate Planning Cycle (DPC) leads to the medical requirement needed as part of *today's* MTW (focus here is primarily theater-level workload, or level III care). Once the CINCs' staffs determine medical requirements, their primary concern is that the requirements can be met with current resources. If they cannot, an Integrated Priorities List (IPL) is sent out to ensure that the services' meet the requirement as quickly as possible.

On the programming side, the DPG leads to a second placeholder representing the determination of medical requirements, but this time the requirement is needed for the Programming Objectives Memorandum, or POM (here the focus is all levels of care from front-line assets (level I) through in-CONUS care of returning casualties (level V)). Each service provides its input for the POM to DOD, which ultimately submits DOD's overall requirements to be funded by the President's budget. The submission of the POM is a statement of need and funding for *future* resources.

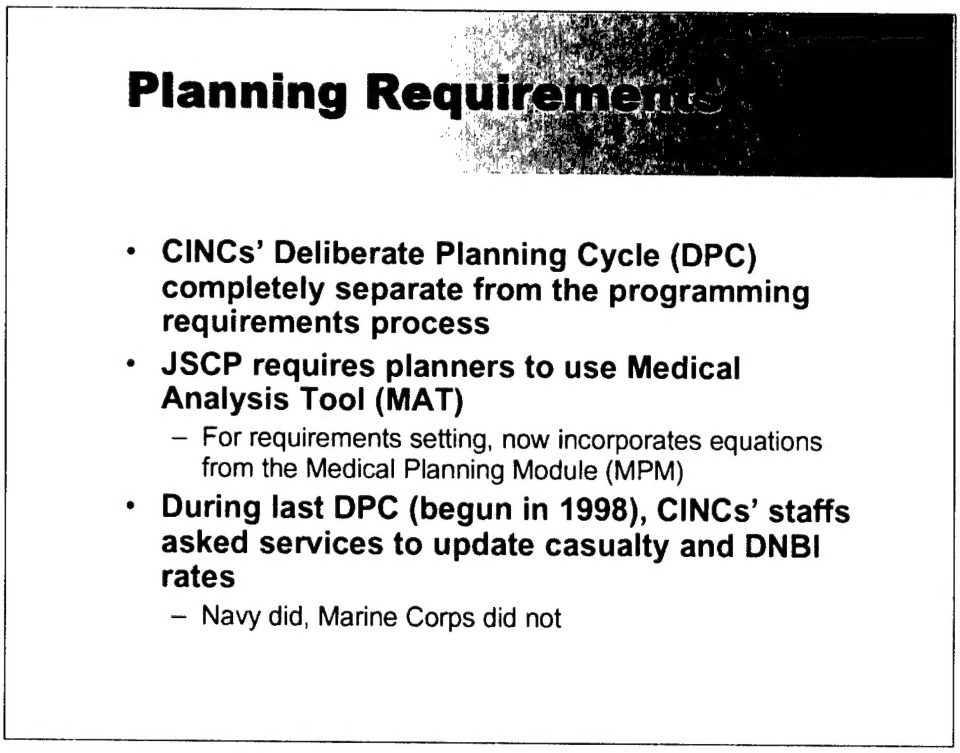
## Planning Versus Programming Requirements

- **Two sets of requirements, at least for theater workload**
- **One done by CINCs for war planning**
  - Planners' main concern—is there enough?
  - If so, don't really care whether too much
- **Second done for POM by N931**
  - Focus is the future, through the FYDP
- **But, should they be very different?**
  - Both based on same 2 MTWs

As we just showed, there are two sets of requirements for level III medical care. The CINCs determine medical requirements as part of their operations planning. The focus here is to make sure that the services provide enough theater-level workload resources for the MTWs that the CINCs must conduct today if called upon. If there are enough resources for their needs, it is not their concern whether there are excess resources.

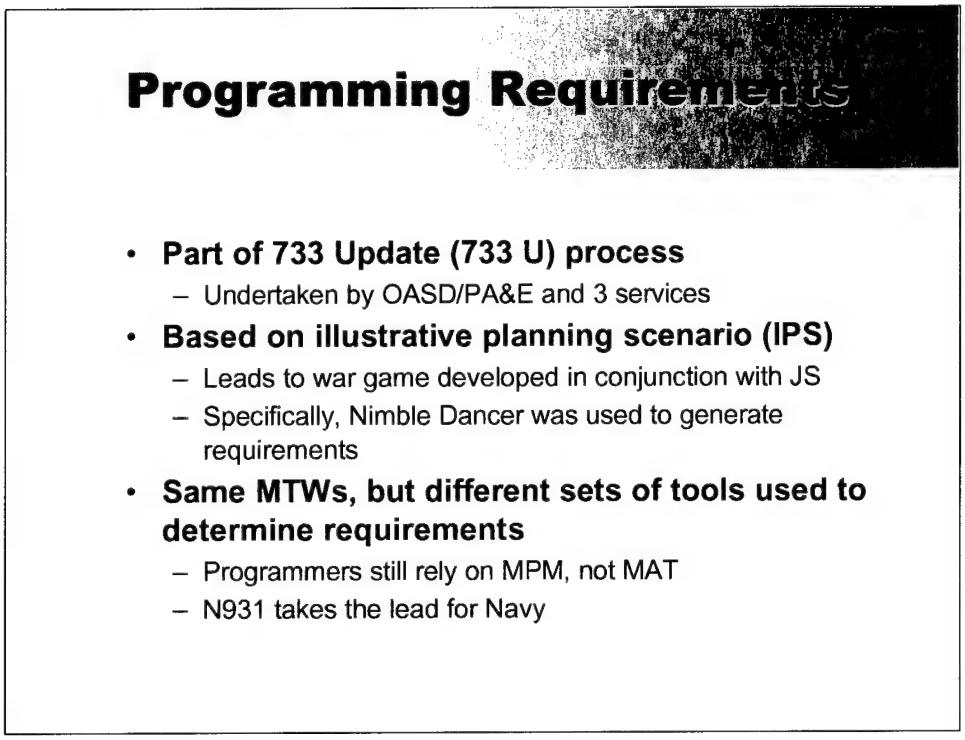
But, the second set of requirements, derived as part of the POM process, does concern itself with ensuring the "correct" amount of resources. Here, N931 takes the lead for Navy programming of resources over the Future Years Defense Program (FYDP). As we said in the previous slide, the focus is the future set of requirements (6 years out); what's available today is not the major concern.

Still, there may be two sets of requirements, and it seems reasonable to ask whether they should be different, given that, under the *current* DPG, the MTWs and their associated OPLANs have not changed substantially for several years.




Before we could answer whether the two sets of requirements are different, we need to explore the requirement-setting process, from both the planning and programming points of view. As we also showed in slide 4, the CINCs calculate requirements as part of the DPC. The DPC may occur officially every few years, but the CINCs' staffs are constantly refining and obtaining new estimates when they feel that the underlying assumptions on warfighting have changed. The JSCP requires that the planners use a model called the Medical Analysis Tool (MAT) to calculate requirements. MAT was first developed as a course-of- action analyzer (i.e., a simulation model), but has now incorporated the equations of the previous model used to calculate medical requirements, which was called the Medical Planning Module (MPM). Both assume a population at risk (PAR) and a set of casualties in theater—WIAs and disease, non-battle injuries (DNBIs). Both models make other assumptions describing lengths of stay at each level of care and evacuation policies from one level to the next. MAT, in conjunction with the just-stated assumptions and planning factors, then leads to the bed requirements for the various levels of care assumed or required in the planning scenario.

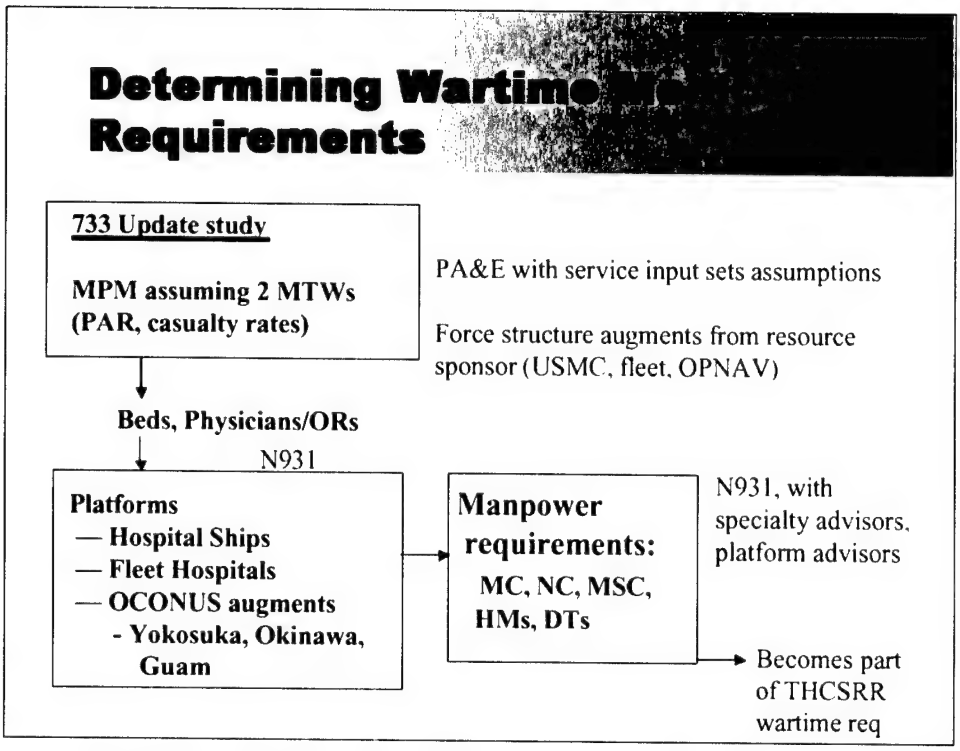
Changes in requirements may occur because of new assumptions, including modifications to the OPLAN. For example, if an amphibious landing by the Marines were added to the OPLAN, one would expect higher casualties and higher bed requirements. Alternatively, simply updating the casualty rates can change the requirement. During the recent DPC, the Navy line updated its casualty rates, but the Marines did not feel it was necessary.




The programmers also determine requirements, but they rely on a somewhat different set of assumptions and models to do so. The DPG directs that requirements will be based on what is known as illustrative planning scenarios (IPS), which specify forces required, but not by name. In other words, a Marine Expeditionary Force may be required, but the IPS does not necessarily specify which one.

Section 733 of the National Defense Authorization Act directs DOD to determine medical requirements. Since the DPG changed as a result of the end of the Cold War, that section has led to two studies of medical requirements. The original 733 study was undertaken in 1993. Then again in 1996, the 733 Update (733 U) study was begun. As in the first 733 study, it was undertaken by the Office of Assistant Secretary of Defense/Planning, Analysis, and Evaluation (PA&E) together with each service as a means to determine the wartime medical requirement. For the recent 733 U study, the IPS was represented by the Nimble Dancer war game.

One important difference between the original 733 and the 733 U was the recognition that operational requirements should include both wartime and peacetime operational requirements. Navy medicine was concerned that including only wartime requirements would result in insufficient resources to allow a Navy presence during peacetime.




We'll use a flow chart to show the manpower requirement process, beginning with the 733 U study. PA&E and the three services rely on Nimble Dancer and set the assumptions and planning factors required by MPM to determine the bed requirement for level III and level IV beds,[1] as well as the number of physicians (broken out by surgeons and medical) and operating room requirements for levels I through III. With this information, N931 determines what mix of level III platforms (T-AH, active duty FH, reserve FH, OCONUS augment) will be used to meet the theater bed requirements.

In conjunction with the specialty and platform advisors, N931 develops staffing documents that lay out the manpower requirement for the number of physicians, nurses, medical service corps officers, hospital corpsmen, and dental technicians required to staff these platforms. Note that there are no definitive and quantitative models that relate beds to the type of provider on the platform; it is generally based on the subjective judgment of the specialty advisors. These staffing requirements are combined with medical manpower requirements for fleet and FMF force structure, and other requirements, to obtain the wartime requirement.[2]

How the wartime requirement fits in with the Navy's Total Health Care Support Readiness Requirement (THCSRR), the staffing processes for each of the wartime platforms, and the active duty/reserve split will be discussed in more detail as we go through the brief.

1. Level IV, OCONUS MTFs are different from OCONUS augments and are not the focus of this study.

2. N931's model for wartime requirements includes staffing for OCONUS MTFs, isolated CONUS, BUMED, AFIP, HQ, NAVRES, Env/PrevMed Units, instructors, medical staff associated with line training centers, BuPers (recruiters), and CNO.

## Differences in Requirements Determination

- **Programmers' and planners' requirements may not match**
- **OPLANs may differ**
  - Planners rely on JSCP for war today, programmers rely on IPS
  - PAR, casualty rates, DNBI rates, evacuation policy, etc., may be different
- **Planners use MAT, programmers use MPM**
- **Previous CNA study showed most differences due to assumptions, not the models**

We have briefly laid out the programmers' and the planners' requirement determination processes. Might there be a difference between the two? The answer is, of course, that they can differ. They both base their requirement on the same MTWs, but the planners rely on the JSCP for conducting today's war, whereas the programmers rely on the IPS, which is a future scenario. The planning factors used in the models should be similar, but they could vary if the planners decide that current conditions warrant a change in assumption.

A potentially larger difference could arise because they use different models. The planners use MAT, the programmers use MPM. When MAT was first introduced, these models were different, with different underlying equations and assumptions, mainly in how they handled evacuation to the next level.

In 1996, CNA examined both models in detail and found that the differences in the assumptions—not those in the underlying methods and equations—were the main reason for differences in the resulting requirements.[1] If one used as inputs the same assumptions on casualty rates, evacuation schedules, and delay times, and the same "dispersion" factor, which at that time was only part of MPM, the resulting requirements were fairly close.

1. R. Levy, L. May, and J. Grogan. *Wartime Medical Requirements Models: A Comparison of MPM, MEPES, and LPX-MED.* October 1996 (CNA Research Memorandum 96-67).

## Do They Lead to Different Requirements?

- **Planners continually reexamine what they need**
  - Programmers rely on IPS that changes only with DPG
- **Other factors that could differ**
  - Models (MPM versus MAT)
  - Planning factors (casualty rates, evacuation schedules, dispersion factors, etc.)
- **Recent VTC with CINCPACFLT indicated that <u>today</u> requirements are pretty close**
  - Could be somewhat coincidental
  - May imply that 733 Update estimates are robust

Once we determined that there were reasons why the two sets of requirements (i.e., by the planners and the programmers) could be different, we wanted to see if they really were different. Why might they differ? The first reason is that the programmers rerun the models and determine new requirements only when the DPG changes—not on a continual or periodic basis. Second, the models could be different, although they have now moved even closer together, with MAT incorporating much of what was in the old MPM. Third, the planning factors could be different.

We explored the differences by setting up a video teleconference with the CINCPACFLT (CPF) planners who run MAT and compared what they had with the results of the 733 U study. We found that, although as recently as last year there were some major differences, the CPF numbers have now changed and are much closer to the programming numbers. Could next year's numbers change again? It's entirely possible (even without any changes to the DPG), but it may also show that the 733 U numbers were carefully calculated and will stand as reasonable estimates of the requirement.

## Navy Programming Requirements

- **N931 developed the Total Health Care Support Readiness Requirements (THCSRR) model**
- **Based on notion that requirements should reflect both wartime and peacetime operational needs**
  - CNA developed the day-to-day operational requirements
    - Based on fleet, FMF, and OCONUS requirements and their rotation base
  - Include wartime requirements and sustainment to get THCSRR

To the extent that the programming requirements lead to a reasonable set of medical wartime requirements, the next question is, How does that relate to the overall set of requirements for Navy medicine? Recognizing that wartime requirements are only a part of the total requirement, N931 developed a model of requirements—the THCSRR model. It explicitly recognizes that, in addition to the wartime component of the requirement, a peacetime operational requirement supports the fleet and Fleet Marine Force (FMF). In fact, CNA developed what is now known as the day-to-day operational requirement that is explicitly based on fleet, FMF, and OCONUS requirement for military medicine. These refer to medical billets, physicians, medical service corps officers, hospital corpsmen, and the like, that serve on ships or with the FMF on a daily basis.[1] The model also recognizes that there must be a rotation base that allows for personnel in fleet and oversea billets to return to CONUS, and stay in a billet until they move to their next fleet or overseas assignment.[2]

THCSRR comprises three main parts—the wartime requirement, day-to-day requirement (i.e., supporting the peacetime mission), and sustainment, which includes those in training.

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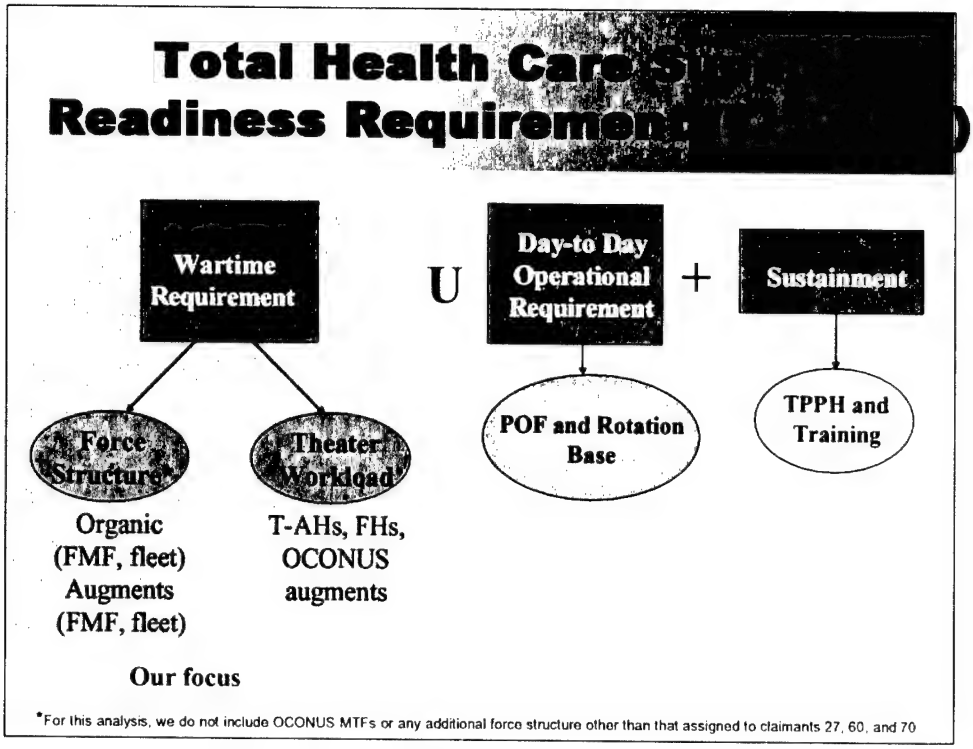
1. R. Levy and N. Carey. *Measuring the Impact of the Navy's Downsizing on Medical Officer Billets.* March 1994 (CNA Research Memorandum 93-217).

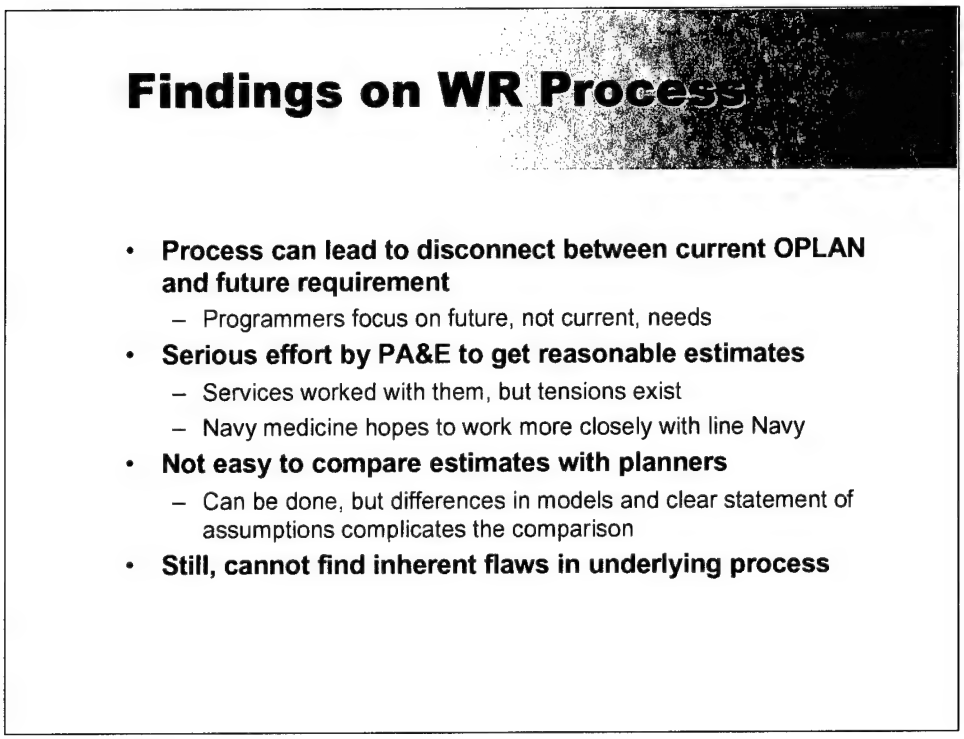
2. R. Levy. *Measuring the Medical Enlisted Rotation Base and the Impact of Force Downsizing*. April 1994 (CNA Research Memorandum 94-43).




Force structure and theater workload make up the wartime requirement part of THCSRR in this simple illustration. Force structure itself has organic components for the fleet and FMF and the augments to these when the war begins. Theater workload includes the level III platforms, the hospital ships and fleet hospitals, and the augment to the three OCONUS facilities during the war.

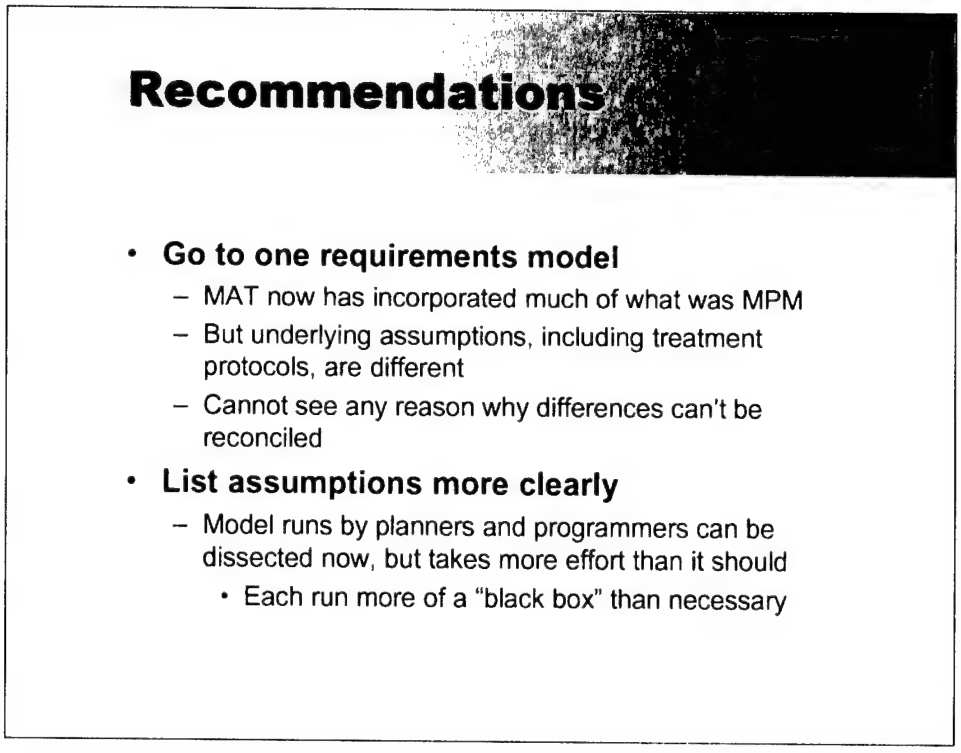
When building the total readiness requirement, the day-to-day requirement is not simply added to the wartime part. Navy medicine takes the *union* of the two to ensure that a requirement is not counted twice. For example, some portion of the staff at a CONUS facility may be in both the peacetime and wartime components—in the peacetime MTF hospital as part of the rotation base for a deployed billet and as an augment to an L-class ship during wartime. Taking the union of the wartime and day-to-day operational requirements avoids double counting. Adding the sustainment part to this union completes the definition of THCSRR.[1]

1. This is a simplified version of THCSRR. For example, N931 includes other requirements that do not neatly fit into the definition of wartime requirements used for this analysis. These include additional force structure (FS), such as OCONUS MTF staffing, HQ, active duty at NAVRES, recruiters, medical instructors, medical assets at line training centers, CNO, and OSD. Again, these are not in our calculation of WR, but they are included in the formal N931 definition of WR. In addition, the full THCSRR model also includes a component called "core" requirements—those billets that are military essential that are not otherwise covered in the 733 Study definition of military essential—which include the COs, XOs, and Command Master Chiefs of all of the claimancy (CL) 18 commands, the staff of the CL18 Clinics at MCRD San Diego, RTC Great Lakes, Marine Corps OCS and TBS at Quantico, and the School of Infantry at Camp Lejeune (note that these are not the billets at the hospitals or main clinics at these locations, but the small on-site clinics that are staffed specifically to support the training mission of the site.) As with the sustainment piece, these core requirements are added to the union of the wartime and day-to-day components.




To sum up what we found thus far, there are two processes associated with the determination of wartime medical. The planners focus on today's conflict, but the programmers are concerned with the future medical requirements—those that require funding today to make sure they will be available tomorrow and into the future. Based on a series of discussions with the programmers, as well as an examination of their work, it was clear that all parties made a serious attempt to determine the set of requirements. They relied on a war game of the two MTWs and discussed the operations side with the responsible CINCs. There are always tensions between PA&E and the service programmers about planning factors, which clearly affect the outcome, but they do work together. In the future, Navy Medicine would also like to work more closely with the line should there be other updates determining the appropriate wartime medical requirement.

Although it is possible to compare the final outcomes of the models (namely, the total bed requirement) it isn't easy to trace all of the steps and derive the exact numbers. In other words, whether or not the planners and programmers derive similar values of medical requirements, it takes great effort to understand why they might be similar or different. The discussions of models and assumptions don't illuminate what's important and the planning factors that they each used in the determination of requirements. Nonetheless, we found no inherent flaws in the determination process for the medical wartime requirement.




Where should the process go from here? First, we see no reason why the planners and programmers can't agree on one model. They are close, especially now that MAT has incorporated much of the requirements setting equations that were part of MPM. But differences remain, particularly in the underlying assumptions of how casualties receive treatment and get evacuated from one level to the next. Any differences should be brought out into the open and resolved.

It would also help if the important assumptions and even outputs of the model runs were made clearer. One can go through the model runs and derive results, but only with a great deal of difficulty. There's no reason why a run has to be analyzed and reverse-engineered in order to determine the results and where they came from. As we say in the slide, each run is essentially a black box and the results become difficult to analyze without a great deal of knowledge on the models and underlying assumptions.

## Wartime Medical Manpower Requirements for Platforms

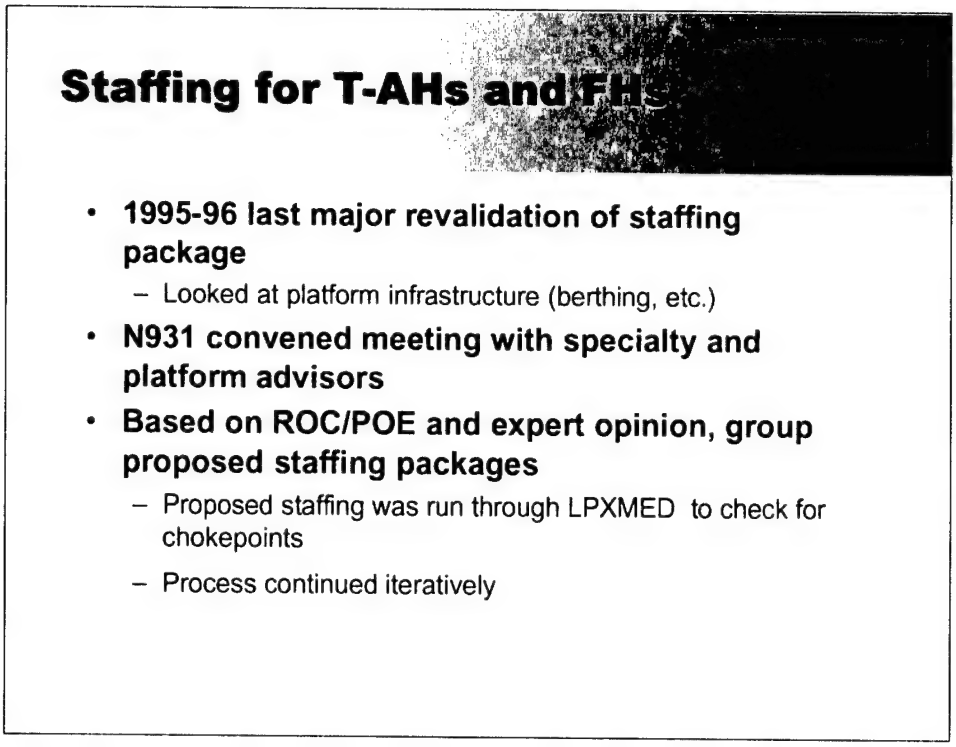
- **Theater workload**
  - T-AH and FH
  - OCONUS augments
- **Force structure (organic and augments)**
  - Fleet
    - L-class ships
  - Marine Corps
- **Reserve**

In this next section of the briefing, we focus on the determination and staffing processes for each of the platforms used to meet the wartime medical requirement.

Specifically, we discuss staffing of the platforms used to meet the theater workload (TW) requirement. These are the T-AHs, FHs, and the OCONUS augment. We will also review the determination process for the FS organic manpower (for both the fleet and FMF) and FS augmentation.

Finally, we discuss how the reserve component is determined.

Because each of the platforms serves a different purpose and is organized differently, we might expect the requirements determination processes to be different for each. This is, in fact, what we find.

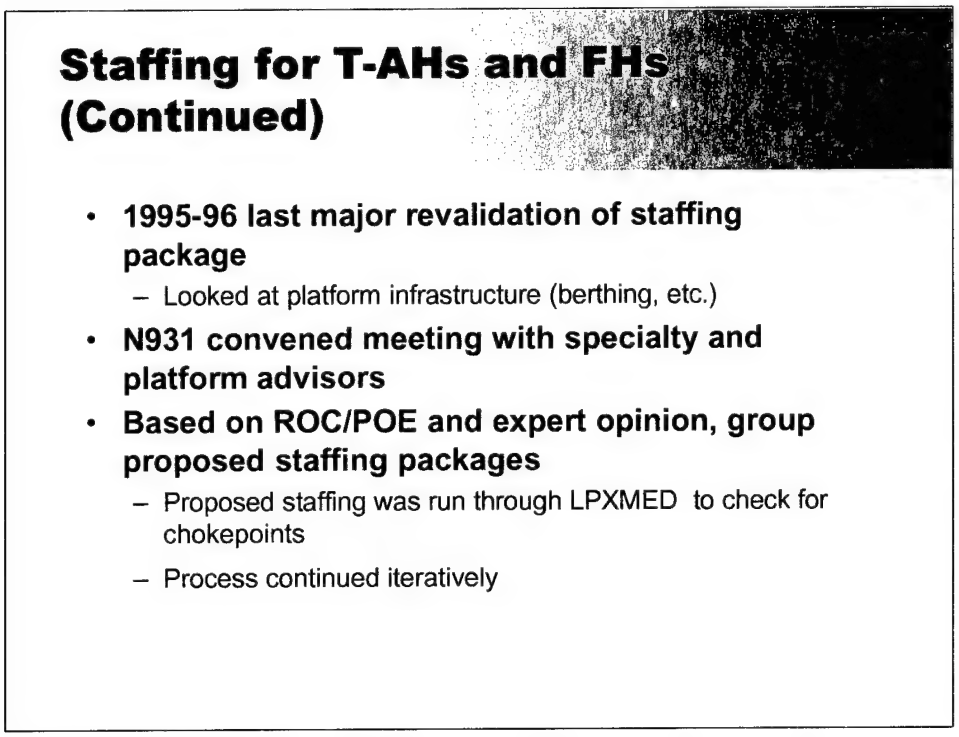



Turning first to TW, the requirement for theater beds is established through the 733 U study (by PA&E in conjunction with the services). To meet the Navy's portion of the theater workload, Navy medicine relies on level III platforms. Again, these are primarily FHs and T-AHs. These are very large medical platforms (with up to 1,000-bed capacity) providing care in a very uncertain environment (serving populations that vary in size and risk, making it difficult to predict the timing and types of casualty flows one might face). As a result, N931, the office responsible for staffing these platforms, relies heavily on subject matter experts to determine appropriate staffing.

Our discussion of the FH and T-AH staffing processes is based on the most recent major revalidation of these wartime medical staffing packages, which took place in 1995-96. N931 convened meetings with medical specialty and platform advisors to develop the staffing package for the T-AH and FH. They used Required Operational Capabilities/Projected Operational Environments (ROC/POEs) for each of these platforms as the basis for their discussions (i.e., the staffing package must meet the requirements specified in ROC/POE) and any infrastructure constraints (primarily the availability of staff berthing).

Once a proposed staffing package was developed, N931 ran all preliminary numbers through LPXMED[1] to check on chokepoints, taking the results back

1. LPXMED is the precursor to MAT (Medical Planning Tool). It is a course-of-action, or simulation, model that makes sure there is no shortage of resources. It is not an optimization model, so it does not check on whether the resources are excessive.

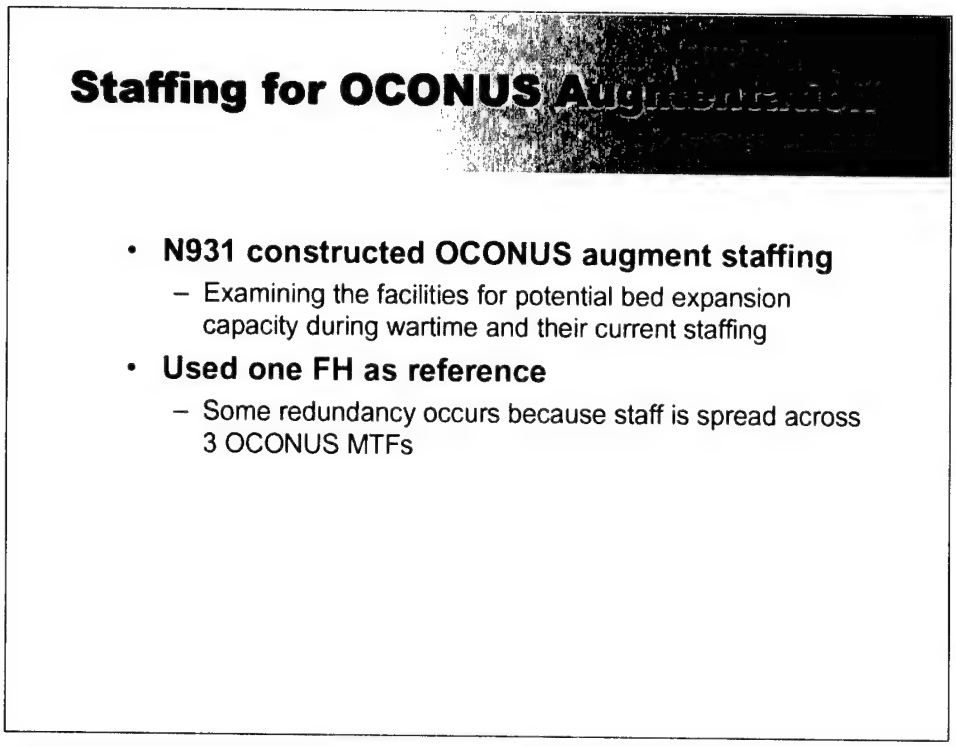



(Continued)

to the subject matter experts to make any necessary adjustments. This process was repeated iteratively until all parties settled on a final staffing package.[2]

As a continuing effort, N931 (in the summer of 2001) is again reviewing the requirements with Military Sealift Command (MSC) hospital program office and the fleet hospital office to make sure that the requirements are up to date.

2. As an additional check, N931 compares its total number of physicians (broken out by surgeons and non-surgeons) and operating rooms against the numbers provided by PA&E. These PA&E numbers come out of the MPM runs for 733 U and are aggregates for the entire system, level I through level III (for the Navy, these include T-AH, FH, OCONUS augment, as well as all FMF and fleet medical assets). Each service's proposed staffing is supposed to be within 10% (plus or minus) of these requirements.




To meet the TW bed requirements, N931 determined that a portion of the beds could be provided in theater using excess capacity at specified OCONUS facilities rather than requiring an additional FH set.

N931 examined three candidate MTFs to see how many extra beds could be added during wartime (still maintaining the facilities' peacetime capacities). They found that the additional capacity at these MTFs could provide as many beds as an FH.

Therefore, the staffing for the OCONUS augment was based on the staffing for an FH. The OCONUS augment does require more staff because the beds (and staff required to support them) are spread across three MTFs. Because the staff is not collocated, there are some necessary redundancies in the requirements.

In the process of developing this OCONUS augmentation package, N931 eliminated all other previous OCONUS augmentation requirements (changing the staff mix and reducing the quantity of OCONUS wartime augments).

## Manpower Determination Process for Navy Fleet

- **Condition III Readiness in ROC/POE drives daily requirement**
  - Wartime/increased tension/deployed cruising readiness
- **Manpower is workload-based for most enlisted, skill-driven for officers**
  - Workload for flight squadrons is based on population
  - Workload for ships is based on ROC/POE capability and ship configuration

We now move to medical manpower requirements for the fleet. We start with a review of the fleet process for the organic manpower requirement.[1] This is the medical manpower required by the fleet to meet both its day-to-day operational mission and its wartime mission. We note that this medical staff serves a fixed population (ships crew, flight squadron, etc.) and faces a fairly predictable workload (e.g., much of this workload is from daily sick-call).

In general, Condition III readiness in the ROC/POE drives these requirements. For the most part, the enlisted process is a formal process that is workload based. The workload for flight squadrons is based on population, and the workload for ships is based on ROC/POE-dictated capabilities and ship configurations. The requirement for the officers (and some enlisted) is based on the need for command authority and special expertise, and the process is less formal. In addition, CNO directives have always been important inputs in both the enlisted and officer processes.

1. This was the focus of a previous CNA analysis for N-813. For a more detailed review of this process, see: F. Tsui and T. Kimble, *Operational Medical Manpower: Profiles and Requirement Determination Processes*, February 2001 (CNA Research Memorandum D0002906.A2/Final).

## Staffing for L-class Ship Wartime Augments

- **N931 is not the claimant but does influence the medical staffing determination**
- **1995-96 time frame, major changes to staffing package proposed**
  - Re-examined ship's medical infrastructure
  - Same staffing package for both LHA and LHD
    - Medical part of ROC/POE
  - Stopped counting overflow beds
  - LHD went from staffing for 6 operating rooms (ORs) to 4
- **Recommended augmentation staffing package of 100 (fell from 168 LHA and 243 LHD)**

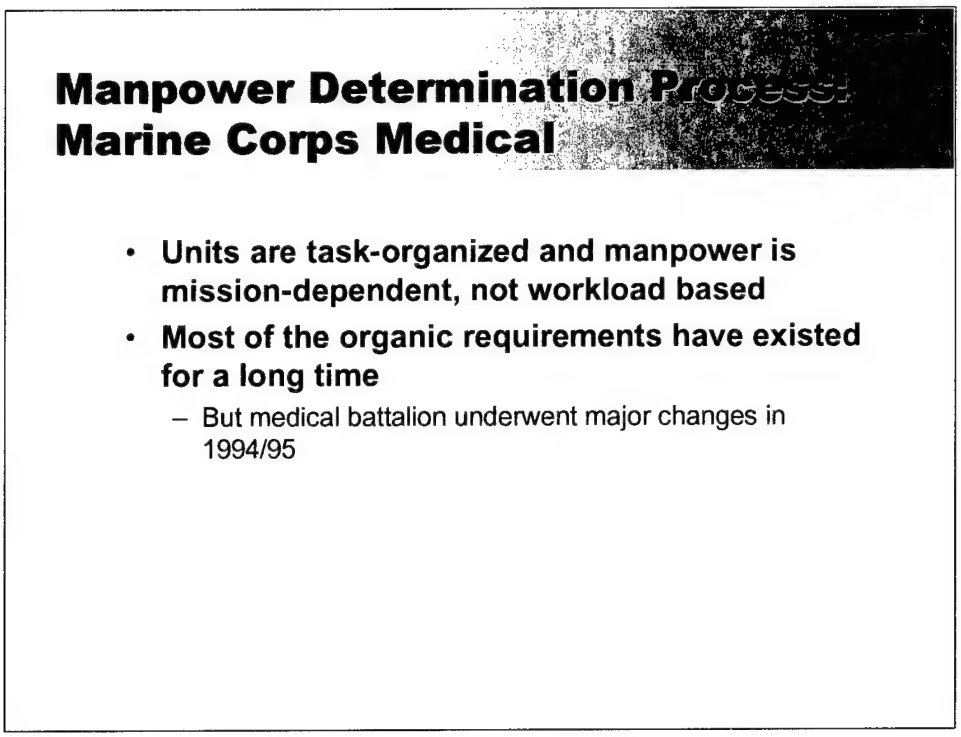
In addition to organic medical resources, the fleet requires medical augmentation to meet its wartime requirements. We emphasize the L-class ship augmentation package because it is the largest augmentation requirement for the fleet.

Similar to the FH and T-AH, the L-class ship provides medical support to populations of varying size and risk, resulting in a workload stream with a great deal of uncertainty. Therefore, once again, staffing for the L-class augmentation package relies heavily on subject matter experts.

Though N931 is not the resource sponsor (RS) for the L-class, it plays a significant role in determining staffing for the medical augmentation package.[1] Based on a thorough review in the 1995/96 time frame, N931 recommended changes to the medical portions of the LHA and LHD ROC/POEs and ultimately alternative augmentation packages. These recommendations were accepted by the claimant and resource sponsors, but have yet to make it into the billet file.

N931 began by examining the ships' infrastructures (ORs, medical/surgical beds, overflow beds, staff berthing). It was determined that the overflow beds (300 to 500) were not conducive to providing any level of medical care and should neither be considered as available resources nor staffed as such. Additionally, N931 recommended that only 4 of the 6 ORs aboard the LHDs be staffed. In the end, N931's recommended staffing package for the L-class augments resulted in a 40% drop for an LHA (from 168 to 100) and a 59% drop for an LHD (from 243 to 100).

1. The claimants for L-class ships are CINCPACFLT and CINCLANTFLT (this includes organic medical and augments). For the L-class augments, N093 is the RS for the MEC=M billets (peacetime only), while N76 is the RS for the PFAC=A (wartime) billets and, therefore, is ultimately responsible for setting requirements.



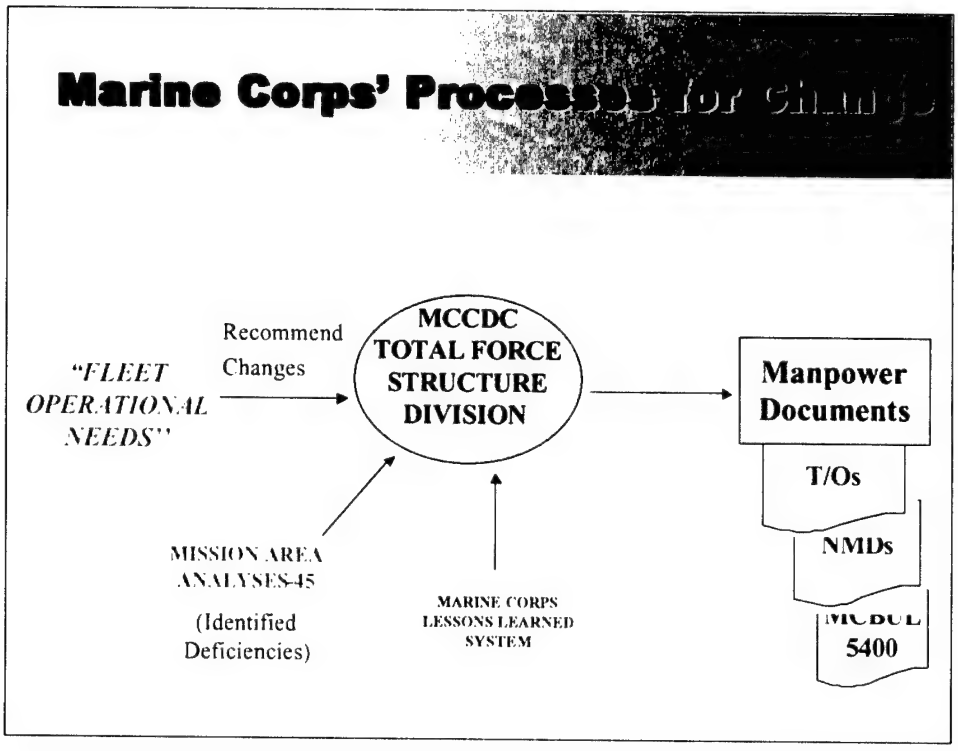

The Marine Corps' medical manpower determination process is distinct from the fleet's process. FMF units are task organized, so their manpower requirement is based on the mission, as opposed to the workload of the units. Previous CNA analysis documents the Marine Corps process and should be referred to for a more thorough discussion.[1]

Most of the Marine Corps organic requirements (division and wing assets) have existed for a long time by the "rule of three" or other historical rules of thumb. These requirements have not changed a great deal over time, as the Marine Corps' organizational structure, mission, and operational concepts have remained fairly constant.

Staffing for medical assets with the FSSG (the Medical Battalion) rely more heavily on subject matter experts as well as organization, mission, and operational concepts. Change is driven primarily by lessons learned, technological advances, and changes in operational concepts. For example, we saw that, after Desert Shield/Desert Storm, the Medical Battalion underwent a major reorganization (1994/95) to achieve lighter and faster medical support to the MEF.[2]

1. F. Tsui and T. Kimble. *Operational Medical Manpower: Profiles and Requirement Determination Processes*. February 2001 (CNA Research Memorandum D0002906.A2/Final).

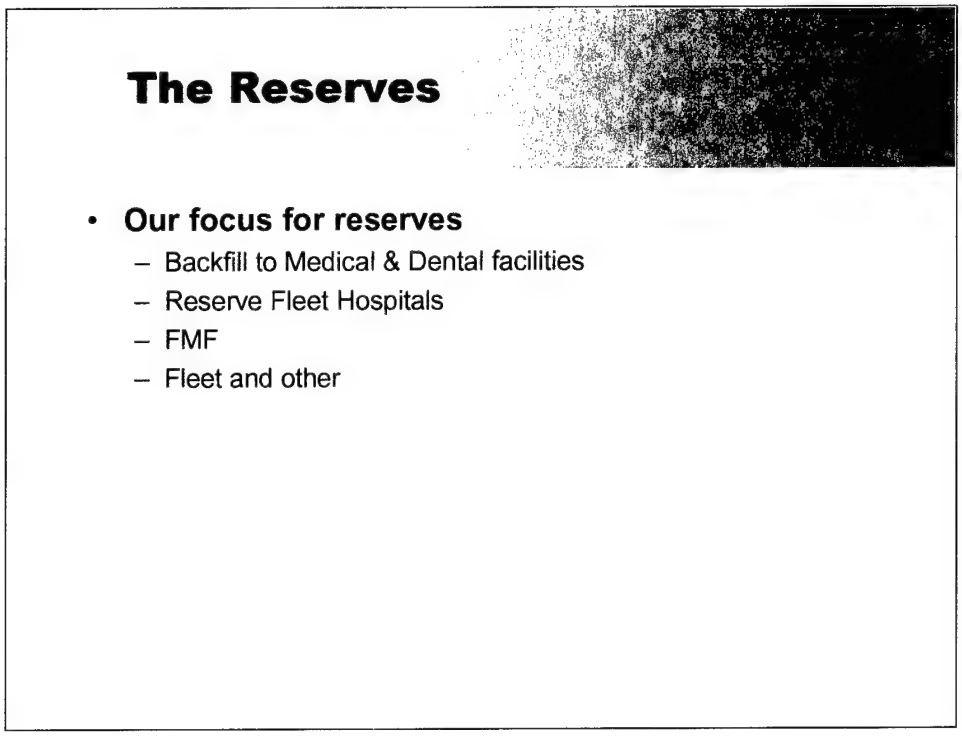
2. Briefings of the proposed Medical Battalion reorganization show that total staffing would remain constant (there would be a shift from HM to medical officers, primarily NC).




Although medical requirements determination for the FMF is not based on a specified mathematical model, there are formal processes by which changes are proposed and approved. We briefly review these here.

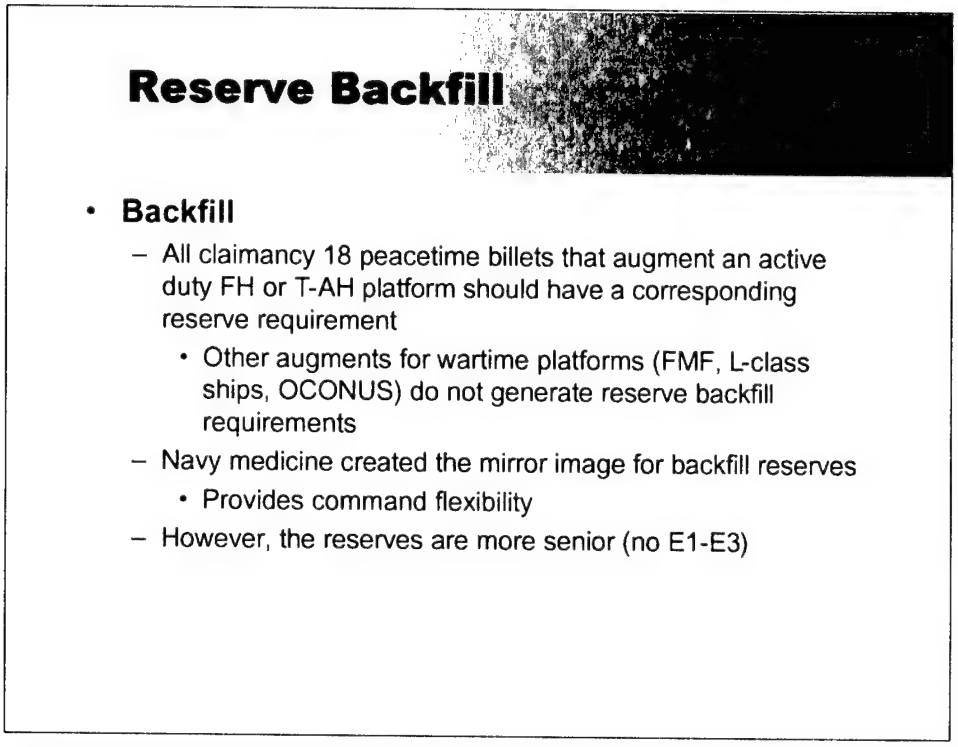
Based on our interview with MCCDC and CG, II MEF, there are two ways to generate changes in the Marine Corps medical assets: FONS (Fleet Operational Needs) and MAA-45. FONS is a process that begins with a recommendation letter (usually from a MEF surgeon) that goes to the Combat Development Process (CDP) for discussion. The CDP is a "Council of Colonels" that makes final decisions on whether to implement the recommended change(s). If CDP decides to make the change, the decision goes to MCCDC's Total Force Structure Division to be incorporated in the new manpower document. In the last few years, increases to the requirement for one unit have had to be compensated by equal decreases for other units: medical augmentation to the Marines has been a "zero sum game."

The second channel for changing FMF medical manpower had been MAA-45 (Mission Area Analysis of Health Services). In 1997, MAA-45 examined the Marine medical support assets, identified the deficiencies, and made recommendations. However, the Marine Corps has discontinued MAA-45 because it is changing all the MAAs from function-specific to scenario-unique analyses. With this change, all medical analyses will be a part of the scenario study, such as Expeditionary Maneuver Warfare, as opposed to stand-alone studies devoted to medical issues.




Now let's take a look at the requirement determination process for reserves. For the most part, reserve requirements are determined in conjunction with AD requirements.

For our analysis, we focused primarily on the selected reserve (SELRES) requirements for: (a) backfill to medical and dental facilities (Program 32), (b) reserve fleet hospitals (Program 46), and (c) Marine Corps reserves (Program 9).




We begin with the largest of these programs, program 32. Each AD peacetime billet that will augment an FH or a T-AH generates a reserve backfill requirement. Therefore, the profile for the MTF/DTF backfill reserves is just the same as the active-duty components that they are replacing. However, because the law prohibits recruiting reserves between age 18 and 25, the reserve force is more senior than the corresponding active duty component.

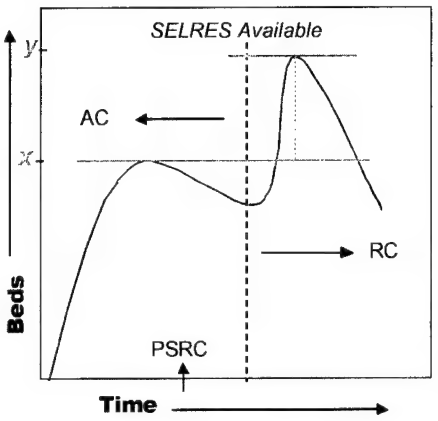
It is important to note two things with regard to backfill. First, there is no backfill requirement generated for AD billets that augment the FMF, fleet, or OCONUS. Therefore, the MTFs will not be manned exactly as they were in peacetime.

Second, rather than determining the specialty mix required at each MTF to accomplish the mission of care of returning casualties, the choice was made to backfill MTFs/DTFs with a mirror image of specialists that were sent out to mobilization platforms. This provides the command flexibility (they can send either the active duty or reservist if necessary) and provides trained backup (the reservist) for the active duty platform.

## AD/Reserve Split

- **Reserve FHs**
  - Based on bed requirement, in conjunction with availability of SELRES within theater
  - Staffing package is identical to AD FH, but more senior

**Illustration of Level III Bed Requirement: AC/RC MIX**




For program 46, reserve FHs, we need to show how the split between AD and reserve FHs is determined. The requirement for reserve FHs is determined by (1) the number of theater bed requirements, (2) the timing of these bed requirements (when they must be in theater), and (3) the availability of SELRES in theater.

On the above graph, we show the theater bed requirement over time (solid blue line).[1] The availability of SELRES in theater is shown by the black, broken vertical line. Availability of SELRES is determined by the timing of the Presidential Selected Reserve Call-up (PSRC), the time it takes to activate and train reserves once the PSRC has been enacted, and time to travel to and set up in theater.[2]

All theater bed requirements prior to SELRES availability in theater will be provided through AD medical platforms (T-AH, FH, OCONUS augment). This is reflected on the graph by $x$ (AD platforms will provide $x$ theater beds). All additional theater bed requirements will be provided by reserve FHs. This is reflected on the graph by $(y\text{-}x)$ (reserve FHs will provide $(y\text{-}x)$ theater beds).

The staffing package for the reserve FH is the mirror image of the active-duty FH. Except for reasons previously discussed, the reserve FH staff are more senior than the active duty.

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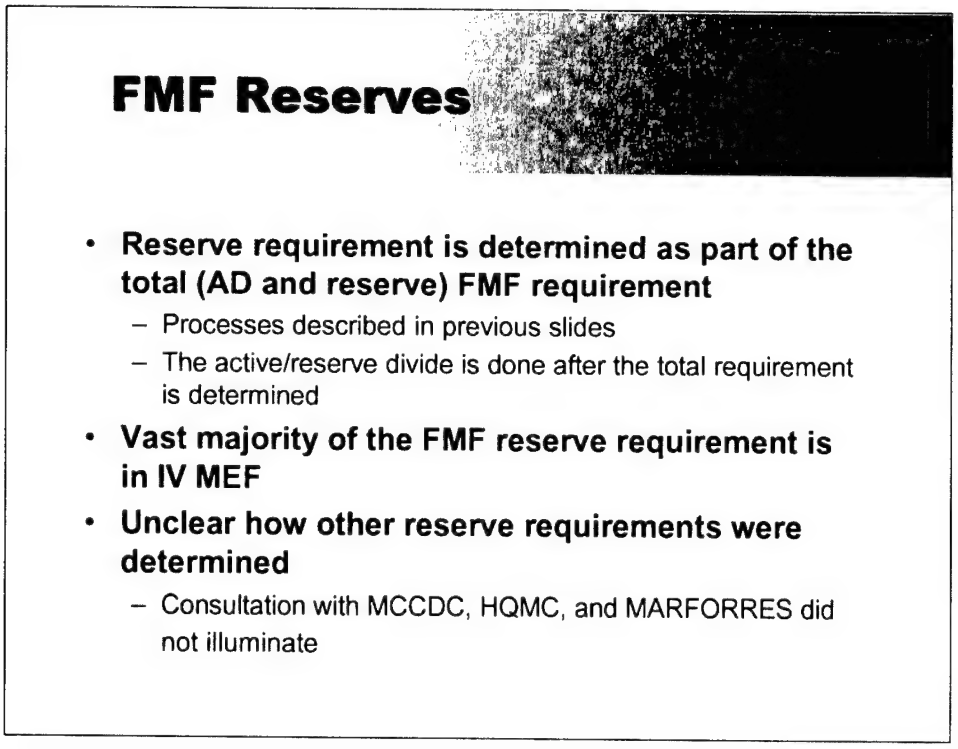
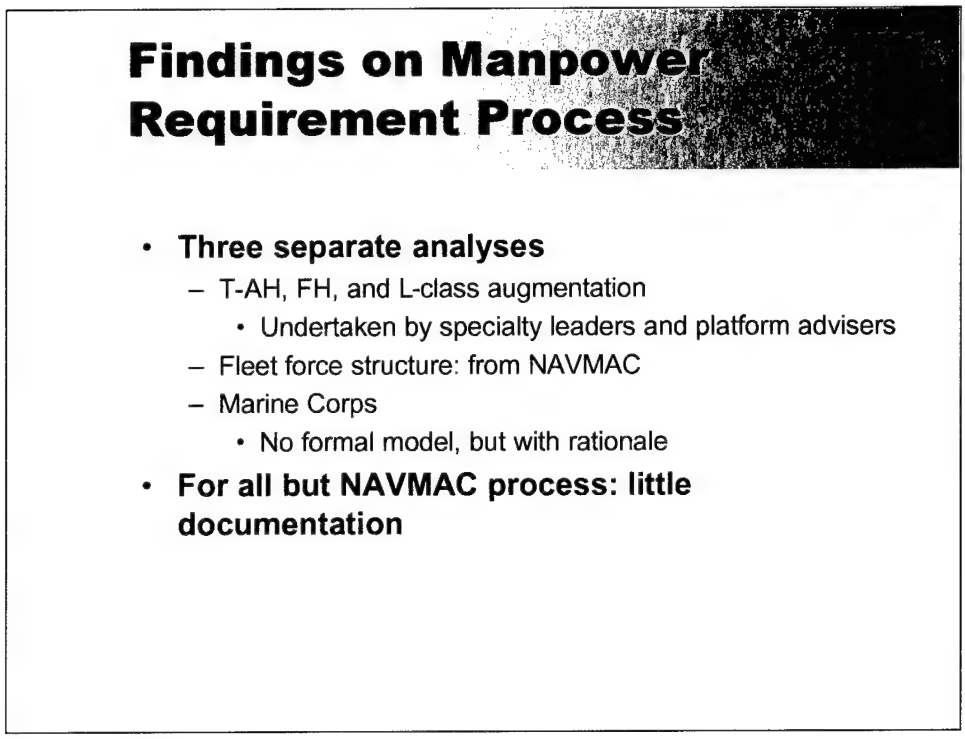
1. The number of beds and the timing of the beds in theater are dictated by 733 U. Both the number and timing of beds are driven by the predicted number of casualties suffered in the illustrative planning scenario (casualties are a function of the concept of operations, population at risk, and casualty rates—WIA, KIA, and DNBI).
2. The timing of the PSRC is modeled in the IPS. According to N931, other factors affecting the availability of reserves in theater are based on the following assumptions: in-processing (3-5 days), activation process (2 days), specific instruction on environment (1-3 weeks, DS/DS enlisted reserves required a 3-week training course), transit (10-14 days), and FH setup (10 days).




Finally, we turn to the FMF reserve requirement. FMF determines its total wartime requirement (AD and reserve) using the determination process described in CNA Research Memorandum D0002906.A2/Final (cited on page 21) and summarized in the previous slides. Once the total requirement has been determined, an AD/reserve split is made. The AD/reserve split is primarily driven by the fact that there is a reserve MEF (IV MEF). The vast majority of FMF medical reserve billets go to fulfilling the requirements for this MEF.[1]

In addition to IV MEF, there are a *few* other FMF reserve requirements. Unfortunately, even after inquiries to several sources (MCCDC, HQMC, MARFORRES), we were unable to determine the process for generating this portion of the AD/reserve split. But, again, this represents only a small portion of the FMF reserve requirement.

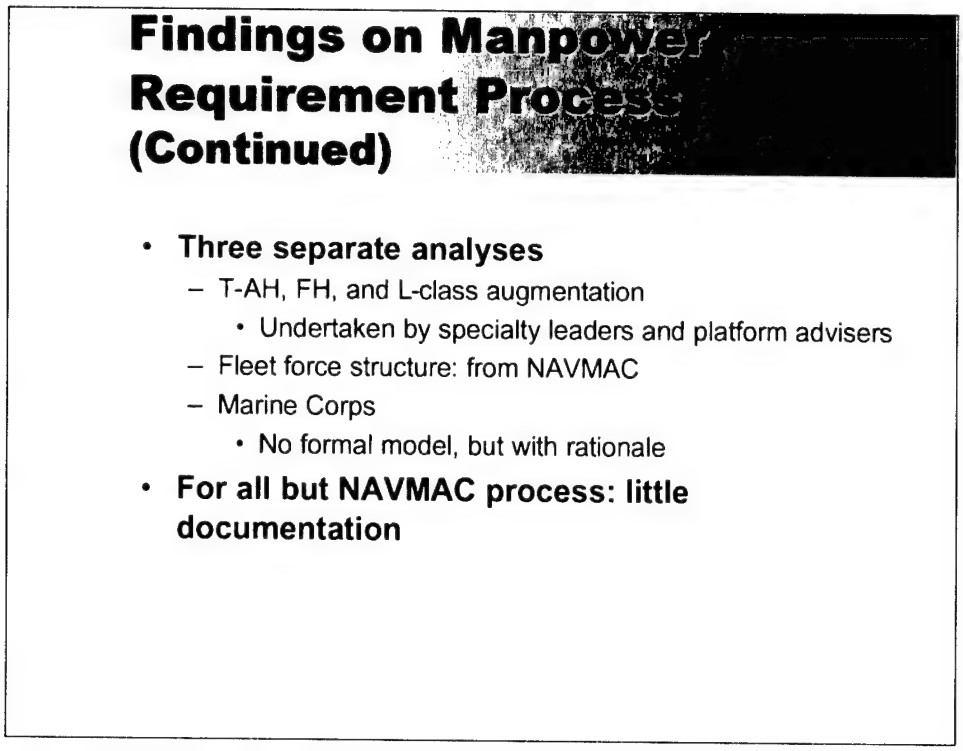
1. IV MEF generally is composed of all reserves, although there are a few minor exceptions. For example, the Navy does not have reserve IDCs, so IDC requirements at IV MEF are met by active duty.




Before we move on to the next section of the brief, let us summarize what we have learned about the manpower determination processes for Navy medical assets.

As expected, we found that the process for setting medical manpower requirements is different for each different type of wartime platform. The T-AH, FH, OCONUS augments, L-class ship augments, and Medical Battalions all serve large populations with varying risk and uncertain casualty streams. These circumstances do not lend themselves to workload-based models. Rather, these platforms rely heavily on subject matter experts. Fleet organic medical support, however, is determined by the expected workload of a ship because its population is fairly defined and workload is much more predictable. Finally, the FMF relies on yet another set of processes driven by its task organization and mission-defined unit configurations. Therefore, requirements for FMF Division and Wing assets (and to some degree Medical Battalion assets) are attached to the smallest unit that might operate independently (e.g., the squad), and casualty estimates are not a major factor in setting requirements.

For the most part, we found that these various processes are defensible given the varying missions of each platform. But, we also found, in general, that the major problem with these processes is the lack of documentation (with the exception of the NAVMAC process for organic fleet assets and the determination of theater bed requirements). While the processes seem reasonable conceptually, it is very difficult to trace actual decisions that led to specific specialty mixes and staff sizing (we are still left with a black box as we move from beds to staffing). This lack of documentation makes it difficult to assess the processes and to make

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requirement/staffing changes without duplicating previous efforts. Therefore, we strongly recommend thoroughly documenting all current and future requirement/staffing determination and amendment processes.

We also want to mention that, although these processes are defensible, they are not the only way to determine manning requirements. The Air Force, and to some degree the Army, rely heavily on more formal modeling (including simulation models) to determine staffing. Therefore, it may be worthwhile to evaluate and compare the staffing decisions across the three medical services.[1]

1.Although more formal modeling methods exist for medical staffing, these methods still depend on subject matter expertise. In the medical arena, one finds that the underlying data/parameters/constraints in staffing models are more often based on subject matter expertise than on clinical outcomes data.

## Can WR Requirements Be Met?

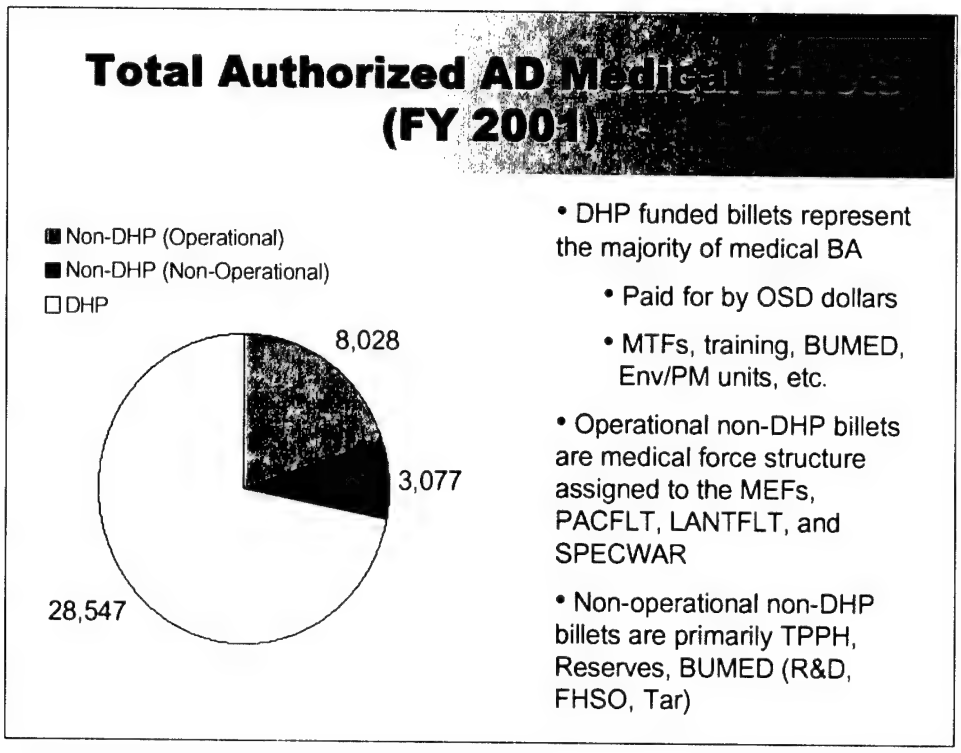
- **Question**
  - Can Navy medicine meet the AD portion of the WR requirement with the current inventory?
  - If not, does it have the necessary billets to grow the inventory?
- **Approach**
  - We compare the WR to total BA and current personnel inventory
    - By specialty
    - Does not include OCONUS MTFs
- **Not able to disaggregate by platform**
  - In process of matching billets and bodies to each operational platform

The next section of this briefing addresses whether Navy Medicine can meet the wartime requirement (WR) with its current inventory of personnel, and, if not, does it have the necessary billets to grow the inventory?

We answer these questions by comparing the WR to the total billets authorized (BA) and the current personnel inventory. These comparisons are done at the general specialty and subspecialty levels and are conducted separately for AD and reserve requirements.

Although there was an interest in taking these comparisons down to the level of the operational platform (FH, T-AH, Medical Battalion, etc.), we were not able to do that at this time. Navy medicine is in the process of matching peacetime billets to wartime platforms (through the use of component UICs). Once completed, this process will allow one to examine not only the inventory of BA and bodies, but the current distribution plans for that inventory. In addition, this process of tying peacetime billets to wartime platforms will greatly enhance (1) the ability of the MTFs to manage their peacetime assets and prepare for their wartime mission (care of returning casualties) and (2) the receiving wartime platform's ability to identify and train specific individuals to meet the wartime requirement associated with that specific platform.[1]

1. Prior to component UICs, specific MTFs were responsible for providing bodies to wartime platforms for training and/or deployment. Individuals were not necessarily identified and/or tracked before being sent to the platform. Therefore, receiving platforms could not train as a unit or depend on getting a trained, cohesive augmentation package from the MTF.



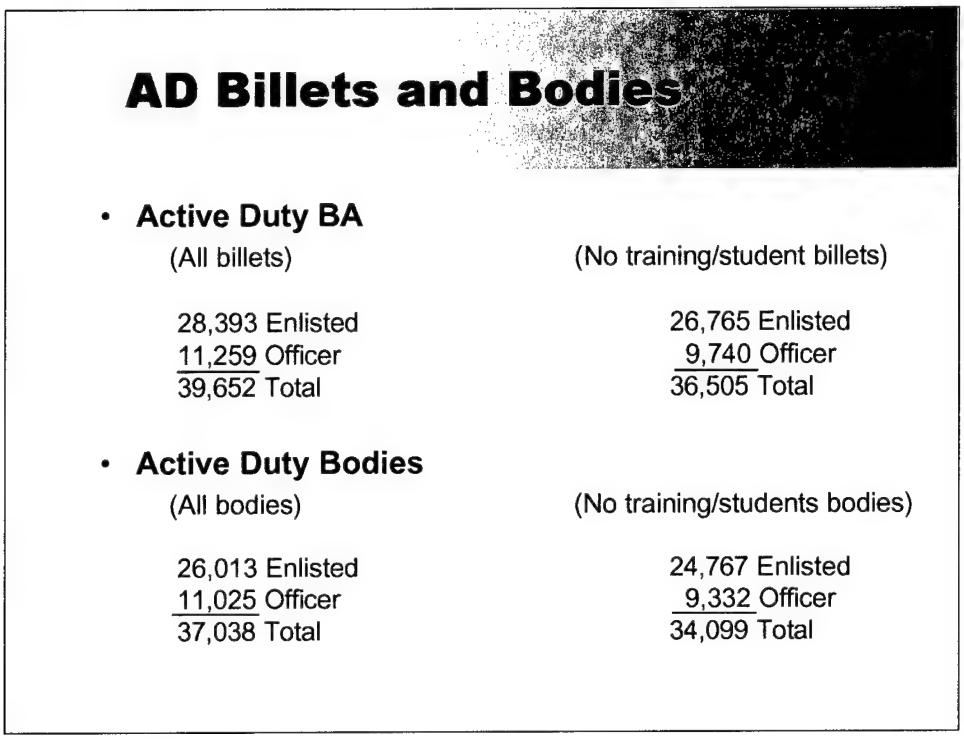

We begin by looking at active duty (AD).

From the June 2001 TFMMS data, we identified 39,652 authorized medical billets. This includes Medical, Dental, Nurse and Medical Service Corps, as well as Hospital Corps and Dental Technicians.

It is important to note that 72% of all active duty BA are Defense Health Plan (DHP) funded billets. DHP BA are paid for by OSD dollars.[1] These billets include those at MTFs (both CONUS and OCONUS), enlisted and officer training billets, schoolhouse staff, BUMED, and environmental and preventive medicine units.

The remaining 28% of medical BA are non-DHP billets (funded by the Navy). These can be divided into two categories: (1) operational and (2) non-operational. Operational billets (20% of BA) are primarily medical force structure assigned to the MEFs, PACFLT, LANTFLT, and SPECWAR. Non-operational billets (8% of BA) are primarily transients, patient, prisoners, and holdees (TPPH); recruiters; Reserve Centers/I&I staffs; RESFOR; and BUMED (R&D, FHSO, TAR/Others).

1. DHP dollars are given to the Navy at the beginning of each execution year. The dollar amount is determined by the total number of DHP officer and enlisted BA (based on programming rate and average PCS). These dollars are paid to the Navy based on BA regardless of the fill rate for DHP billets.




This slide shows the comparison of total active duty medical BA[1] and medical BA excluding training and student billets to the 2001 bodies on board (or personnel inventory).

Personnel inventory was drawn from the March 2001 Officer Master File and June 2001 Enlisted Master File. For the sake of our analysis, we concentrate primarily on medical personnel excluding students and trainees. This is what we consider the "deployable" population.

1. Our medical population numbers include HMs and DTs (general duty and technicians), MC, DC, NC, and MSC. They *do not include* Seamen in "A" schools training to become HMs/DTs.

## AD Wartime Requirement

- **We estimate the WR using notional staffing requirements when possible**
  - Was possible for T-AH, FH, OCONUS augments, and L-class ship augments
  - Was not possible for FMF/fleet organic force structure, and augments (except for L-class ship augments)
    - Constructed from actual required billet data
- **We believe that the calculation of THCSRR should be independent of the billet file**
  - Billet file is unreliable

Next, we look at the wartime requirement (WR). In estimating the WR, we use notional staffing requirements whenever possible. N931 was able to provide us with notional staffing for TW platforms—T-AHs, FHs and OCONUS augment—and the notional augmentation package for the L-class ships. All other FS requirements to the FMF and fleet (both organic and augments) had to be constructed from actual required billet data (this is the way N931 constructs the THCSRR requirement for these FS components).

Relying on the billet file to construct any portion of THCSRR is problematic. The billet file is constantly in flux and contains significant error, making it an unreliable source and subject to interpretation. We believe that THCSRR should be a purely notional requirement, independent of the billet file. THCSRR and the billet file should then be reconciled periodically to determine if differences between the two sources reflect error in the billet file or substantiated changes to wartime requirements that should be incorporated into THCSRR.

## AD Wartime Requirement by Platform

- 53% of AD wartime *requirements* are DHP-funded requirements
  - Augments to FMF and fleet force structure
  - Staffing for AD level III medical platforms (theater workload)
- In peacetime, these DHP funded billets are assigned to component UICs within Navy MTFs

| | | | |
|---|---|---|---|
| Non-DHP | FS | FMF | 5,419 |
| Non-DHP | FS | PACFLT | 1,581 |
| Non-DHP | FS | LANTFLT | 1,468 |
| Non-DHP | FS | SPECWAR | 244 |
| Non-DHP | FS | Other | 79 |
| | | | 8,791 |
| | | | |
| DHP | FS | FMF Aug | 1,897 |
| DHP | FS | Fleet Aug | 220 |
| DHP | FS | L-class Aug | 924 |
| | | | 3,041 |
| | | | |
| DHP | TW | FH | 4,416 |
| DHP | TW | OCO | 794 |
| DHP | TW | TAH | 1,848 |
| | | | 7,058 |
| | | | |
| Total | FS + TW | | 18,890 |

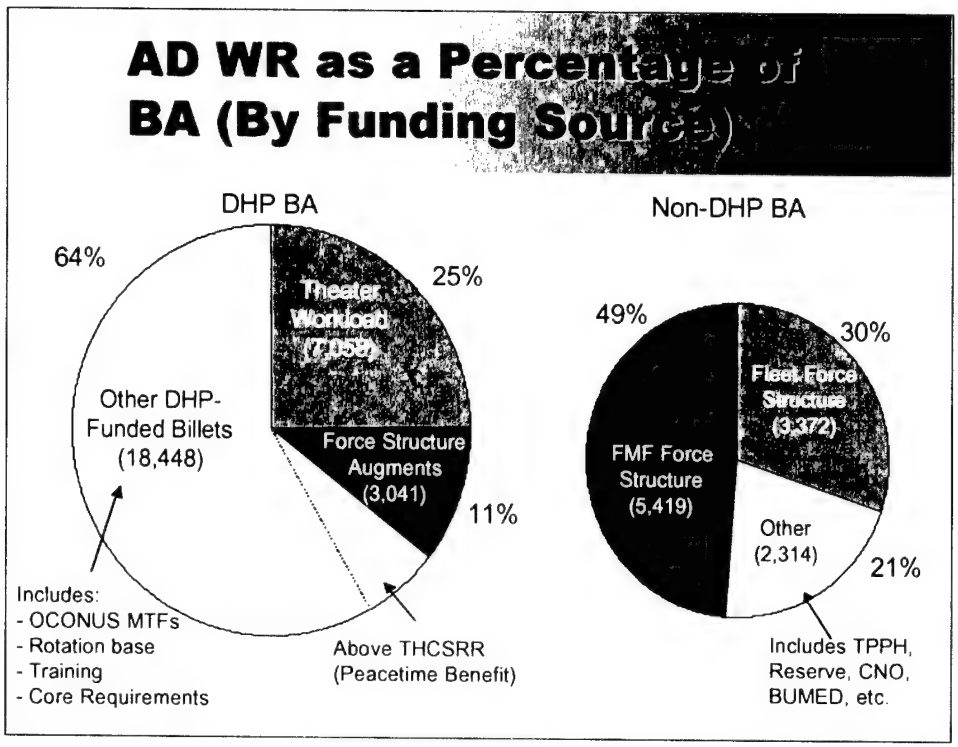
These next slides break down our estimate of the WR.

We estimate that the total wartime requirement represents nearly 19,000 medical billets. We note at this juncture that our estimate of WR is based solely on TW and FS directly tied to the FMF, fleet, and SPECWAR. This is a more limited definition of WR than that used in the THCSRR model. For THCSRR's WR, N931 includes staffing for OCONUS MTFs, isolated CONUS, BUMED, AFIP, HQ, NAVRES, Env/PrevMed Units, instructors, medical staff associated with line training centers, BuPers (recruiters), and CNO. We chose not to include these in WR because they were not the focus of our analysis; therefore, we could not say anything regarding the processes for developing these staffing requirements. But, for those readers who are familiar with the formal THCSRR definitions, it is important to understand our definition of WR as we move forward.[1]

Again, we point out the split between DHP and non-DHP funded requirements. Fifty-three percent of the active duty WR is DHP funded. This includes all TW (T-AHs, FHs, OCONUS augment) and augmentation packages for the FMF and fleet (10,099 of the 18,890 WR billets).

In peacetime, these DHP-funded billets are assigned to component UICs within Navy MTFs. The remainder of the WR billets are organic to FMF and fleet (with the forces in peacetime and wartime).

1. THCSRR documentation is fairly limited. We recommend that the components of THCSRR be clearly defined (in terms of what exactly is included in each, as well as, a broad definition of the categories). Although our definition of WR, for the sake of this analysis, is more limited than the N931 definition, this is not meant to reflect any recommendation regarding the THCSRR WR and what should or should not be included. That was not within the scope of this study.




With this slide, we show that, in aggregate, there appears to be enough total BA to meet the WR slice of the readiness requirement. In fact, WR represents approximately 49% of the total BA.

If we look at it by funding source, the wartime requirements that would be met by DHP-funded billets make up 36% of the DHP BA. The remainder of the DHP BA is made up of other components of THCSRR (staffing for OCONUS and isolated CONUS facilities, rotation base, training, and other core requirements) and a slice of above THCSRR billets (assigned to MTFs and providing the "peacetime benefit").

The wartime requirements that would be met by Navy-funded billets make up nearly 80% of the non-DHP-funded BA. The remaining non-DHP BA includes TPPH, NAVRES, Reserve Centers/I&I Staffs, CNET, BUPERS, BUMED, and other claimants (for the most part included as part of THCSRR).

Next, let's compare billets and bodies to requirements at a more disaggregate level.

## Comparing AD WR to Billets and Bodies, by Specialty

- **BA and personnel inventory are adequate to meet the WR at the general specialty level, except for**
  - Anesthesiology and nurse anesthetists (CRNA)
  - Neurosurgery
  - General Surgery
    - Clinically acceptable substitutions are available
- **Mismatches of sub-specialists within GS, ortho, anesthesiology, and nursing**
  - Are these hard requirements? If so, the BA and inventory fall significantly short
  - Nursing relies on substantial substitution to meet the wartime requirement

We want to know not only whether there are enough billets and bodies to meet the WR, but whether they are the right types of billets and bodies. Does the current specialty mix support the WR?

For the most part, we find that BA and personnel inventory are adequate to meet WR at the general specialty level (orthopedists, internal medicine, nursing, etc.). The exceptions that cause the most concern are anesthesiologist and certified registered nurse anesthetists (CRNAs). There are not enough bodies to meet even our conservative WR for anesthesia providers. Although we have enough anesthesiologist billets to grow the inventory to meet WR, there are not enough CRNA billets to grow that inventory to meet WR. This is troubling because, again, we are looking at only a portion of the total readiness requirement.

Other shortfalls include neurosurgery (which has a very small WR) and general surgery (GS). GS has clinically acceptable substitutions that can be used to meet the WR (specifically, urology and OB/GYN).

As we move to more granularity within specialties, we start to find more mismatches, primarily within GS, orthopedics, anesthesiology, and nursing. We seem to have enough GS (and substitutes), orthopods, and nurses to meet WR, but we don't have the right sub-specialists within these fields. Therefore, we must ask, Are these hard requirements? If so, these specific shortfalls in the BA and personnel inventory should be addressed.[1]

1. Appendix A has detailed information specifying the WR, BA, and personnel inventories broken out by specialty for MC, DC, NC, MSC, HM, and DT communities. Not all specialties are represented (only if there is a WR requirement), and within MSC we focus on health scientists.

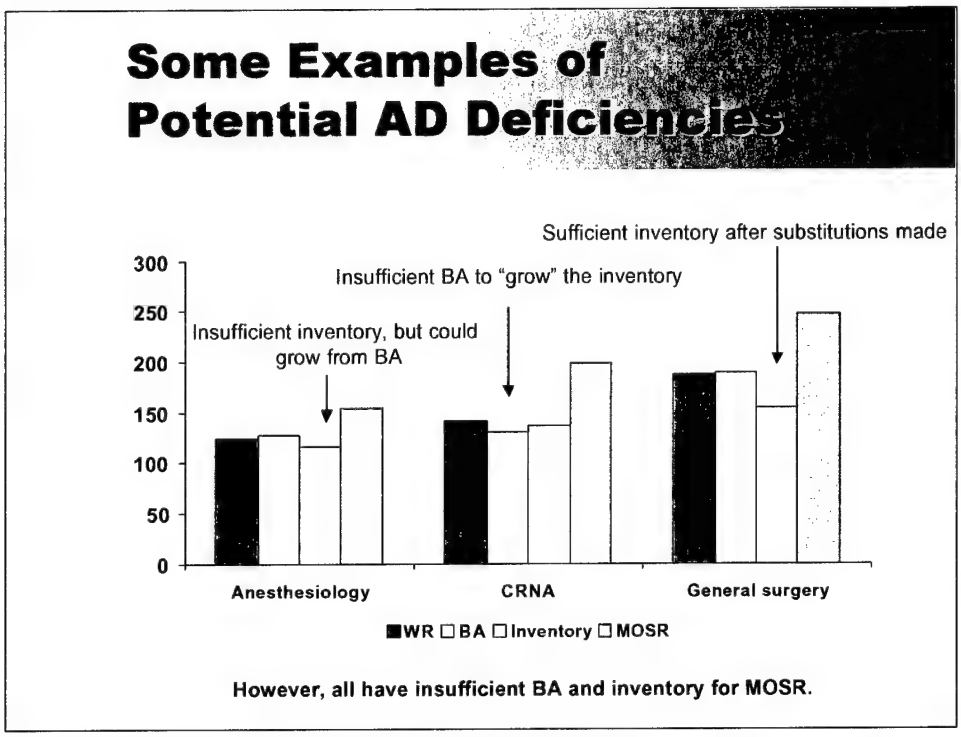
## Findings: Sufficiency of Active Duty BA/Inventory

- **In general, BA and personnel inventory are adequate to meet WR**
  - But, for a select few, the mix of sub-specialists is not
- **WR represents only a slice of the total readiness requirement**
  - Meeting the WR does not ensure continued staffing of the total fully trained requirement (MOSR)

As we stated on the previous slide, in general, the active duty BA and personnel inventory are adequate to meet WR, with a few exceptions (mainly anesthesia providers). Within specialty areas, there appear to be more mismatches between specific requirements and current billets/bodies. Each case should be taken seriously, if these specialty requirements are considered to be true requirements. Of particular concern is nursing, which relies on significant substitutions to meet its WR (a significant portion of these substitutions fall outside the clinically desirable parameters set forth by the Nurse Corps).

A final note of caution: the WR represents only a slice of the total readiness requirement. Meeting WR does not ensure continued staffing of the total fully trained requirement (MOSR).[1] This means that, even though there are enough anesthesiology BA to meet the current WR, Navy medicine could not, for example, continue to staff OCONUS facilities with anesthesiologists and support 2 MTWs.

1. In the THCSRR model, MOSR (Medical Operational Support Requirement) is the union of the wartime requirement and day-to-day operational requirement, where the day-to-day requirement equals the peacetime *operational* force and the rotation base. See slide 12 for an illustration.

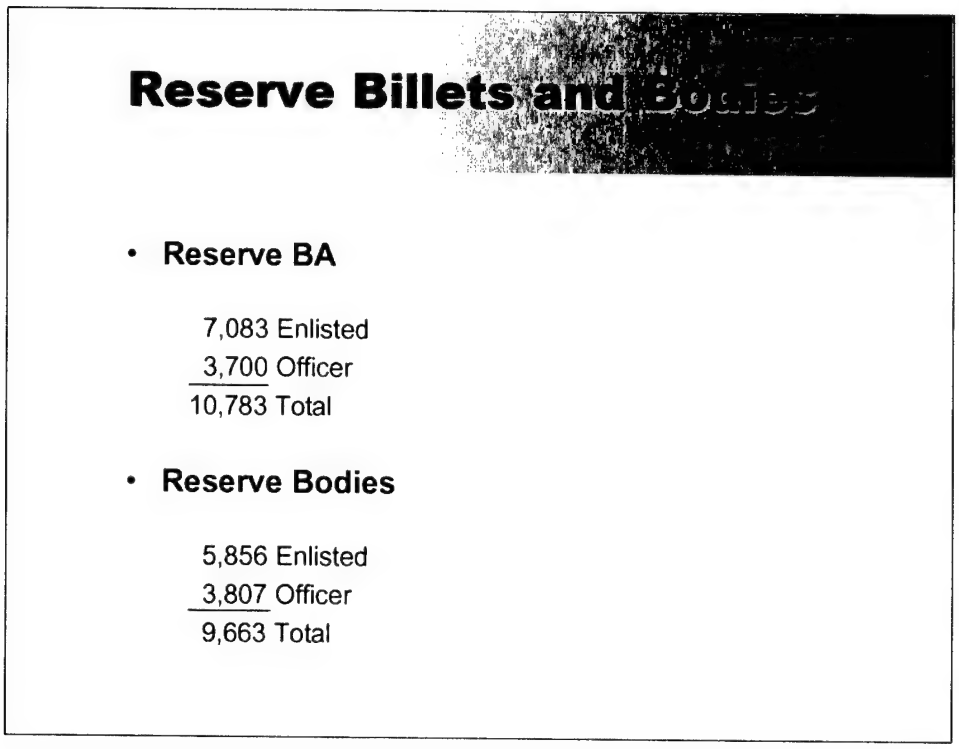



As the final look at active duty, we show some examples of the potential deficiencies that we discussed in the previous two slides.

The first set of bars represents anesthesiology. Despite insufficient inventory to meet WR, there are enough BA to grow the inventory. When we look at the second set of bars, we see that for CRNAs there are neither enough bodies to meet WR nor enough billets to grow the inventory.

Looking at the third set of bars, we see that general surgery does not have enough bodies to meet WR, but the shortfall is less than 20%. Fortunately, there are plenty of general surgery substitutes to draw on from OB/GYN and urology, and the clinically acceptable level of substitution for general surgeons is no more than 50% on any specific platform.

Finally, note that in each of these cases inventory and billets are insufficient to meet the MOSR, or the total fully trained readiness requirement.



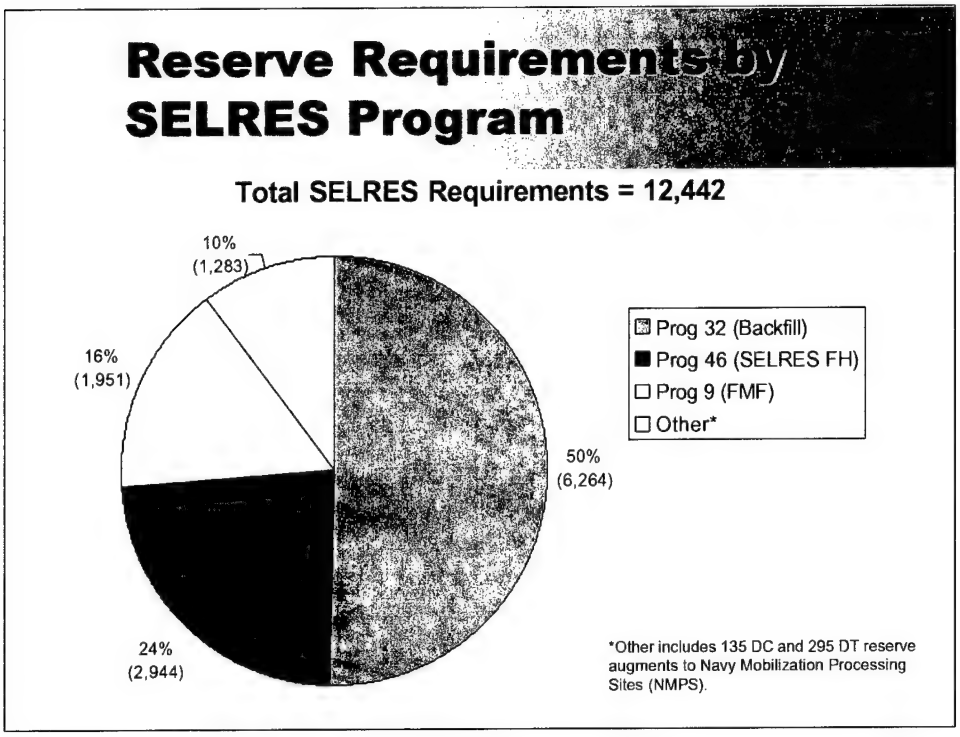

Now we look at reserve requirements. We will examine the total SELRES requirement, then break it down by program 32 (backfill to MTFs and DTFs), program 46 (reserve FHs), program 9 (FMF reserves), and all other SELRES programs. Other includes SELRES in support of submarine, surface, mine, and air forces, construction, and military sealift, as well as many other small reserve programs.[1]

From the June 2001 TFMMS data, we identified 10,783 authorized medical reserve billets (MRC=RA). This includes Medical, Dental, Nurse and Medical Service Corps, as well as Hospital Corps and Dental Technicians.[2]

From an August extract of IMAPMIS (provided by MED-07), we identified a SELRES personnel inventory of 9,663.

1. For billets, "other" also includes 135 DC and 295 DT billets that augment the Navy Mobilization Processing Sites (NMPS). For bodies, it appears that individuals assigned to meet the NMPS requirement are within program 32. Therefore, with regard to personnel inventory, we are not able to disentangle backfill from NMPS.

2. Unlike AD billets, all funded SELRES billets are funded by non-DHP sources.




When estimating the reserve WR, again we use notional staffing requirements whenever possible (backfill for T-AHs and AD FHs, and reserve FH program). SELRES requirements for FMF and all other reserve programs had to be constructed from actual required billet data (again, this is the way N931 constructs the THCSRR requirement for these reserve components).

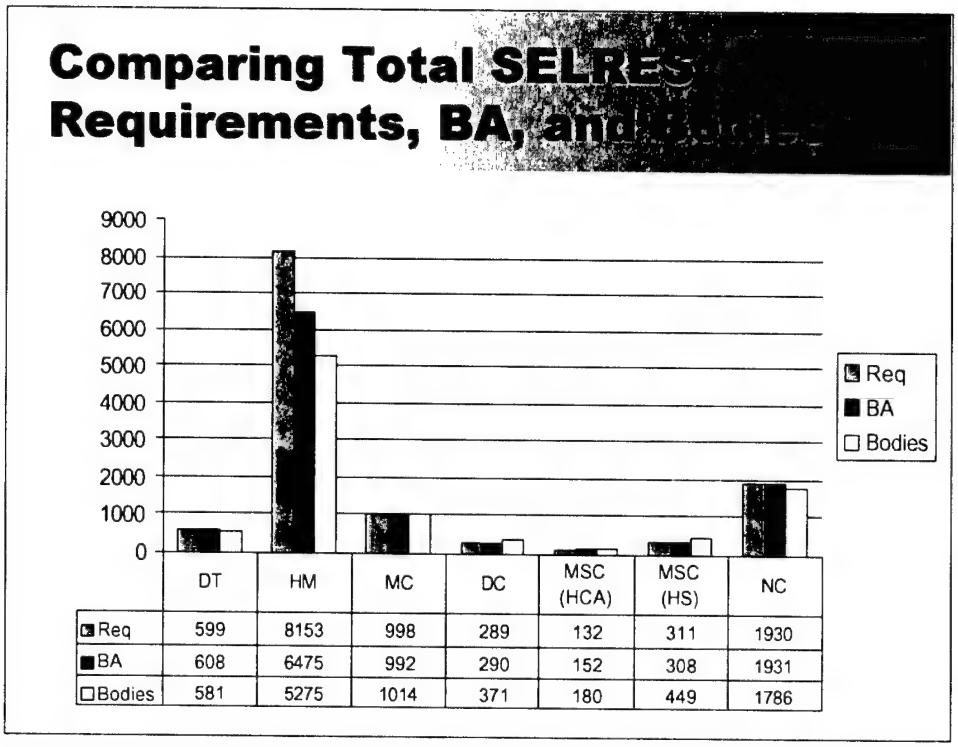
We note several issues of interest regarding SELRES requirements:

1) TFMMS includes a significant number of unfunded billets with no peacetime mission. Should these be considered part of the reserve requirement (unfunded reserve requirement)? Currently, they are not.

2) The Navy has not programmed for one-third of the reserve FH requirement. It is understood that this requirement would be met by Individual Ready Reserves and active duty if the need arose. Therefore, the requirement is not captured in the billet file.[1] Our requirement numbers reflect only that portion of the FH requirement that will be met by SELRES program 46.

3) A significant portion of the SELRES requirements for DC (46%) and DT (49%) are included in the "other" category. These are driven by augmentation to Navy Mobilization Processing Sites (NMPS). These sites take care of the increased workload that would be seen during mobilization (returning reservists to AD within 3-5 days). We did not examine the process for determining the NMPS requirement.

1. N931 had previously programmed 100% of the reserve FH requirement. According to N931, the decision was made to cut programming by 1/3 because the SELRES did not have the ability to recruit and retain personnel to fill the billets. The billets were cut to pay for other requirements that could be filled.




| | DT | HM | MC | DC | MSC (HCA) | MSC (HS) | NC |
|---|---|---|---|---|---|---|---|
| Req | 599 | 8153 | 998 | 289 | 132 | 311 | 1930 |
| BA | 608 | 6475 | 992 | 290 | 152 | 308 | 1931 |
| Bodies | 581 | 5275 | 1014 | 371 | 180 | 449 | 1786 |

In aggregate, BA and personnel inventory appear to be adequate to meet the SELRES requirements for the MC, DC, and MSCs (both Health Care Administrators (HCA) and Health Scientists (HS)). We do show very small shortages for dental technicians and much starker shortages for hospital corpsmen (a fill rate of 65% and insufficient BA to grow the inventory) and NC (less severe with a 93% fill rate and sufficient BA).

Because reserve personnel are associated with a specific reserve program and there does not seem to be any easy way (or a big push) to shift inventory across programs as needed, we also compared requirements, BA, and bodies by program. Appendix B contains individual graphs for programs 32 (backfill), 46 (SELRES FH), and 9 (FMF).

We find that HM and NC shortages persist in programs 32 and 46 (the HM fill rates for these programs are 56% and 55%, respectively). Within program 9, shortages exist for DT, HM, MC, and DC communities.

## Comparing SELRES WR to Billets and Bodies, by Specialty

- **HM and DT shortfalls exist across all NECs (with few exceptions)**
  - AD HMs/DTs can make up the difference
- **NC shortages for med-surg, critical care, and perioperative**
  - May be able to cover some shortages with AD
- **Shortages for GS, ortho, neurosurgery, internal medicine, and anesthesiology**
  - May be able to cover some shortages with AD and, in some cases, other reserve specialists
- **In most of these cases, not enough billets to grow inventory**

When we look at the adequacy of billets and bodies to meet the specialty-specific SELRES WR, we see that the shortages are widespread and in some cases are exacerbated.[1]

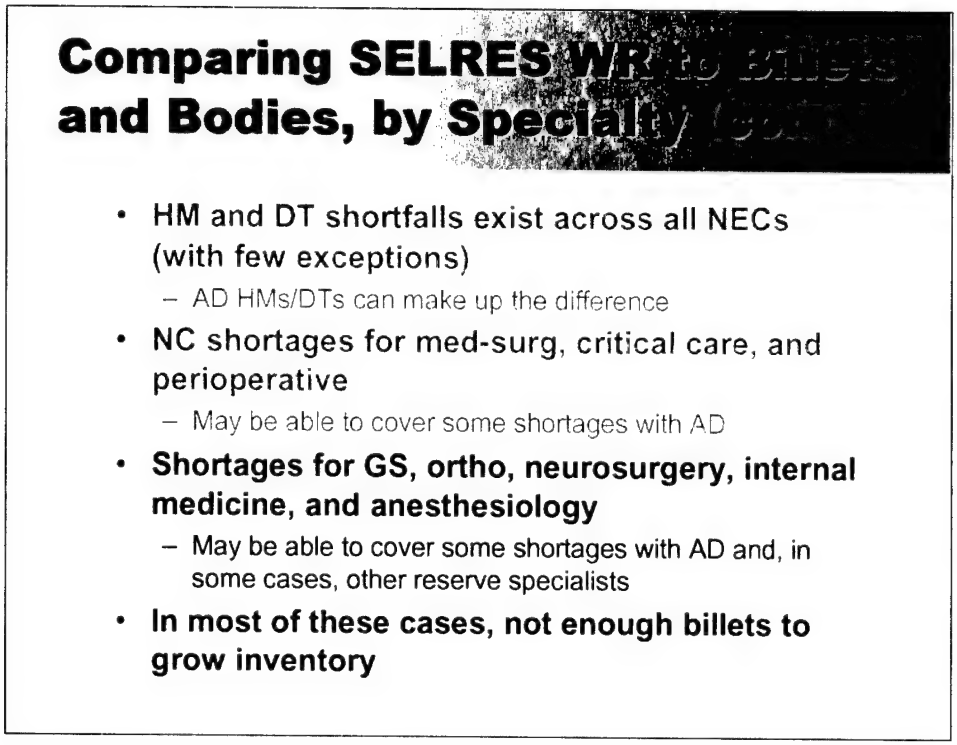
The large HM shortfall is spread across nearly all NECs. The fairly small DT shortfall (currently manned at 97%) is felt almost exclusively by specialized technicians. With the exception of basic lab techs, none of the dental technician specialties is manned over 45% of its WR. However, there does appear to be enough excess in the AD HM/DT communities to cover these shortfalls (in total and by NEC).[2]

The NC shortfall is felt primarily by med-surg, critical care, and perioperative nurses. Except for perioperative nurses (this specialization has very limited substitutes and is currently undermanned on the AD side), we believe that substitution within the reserve NC and excess AD NC can be used to cover the shortfalls.

Although the MC has enough bodies in aggregate to meet the SELRES WR, there are several specialty-specific shortfalls. Ortho, neurosurgery, internal medicine, and anesthesiology are all undermanned, and, in addition to GS, all

1. Appendix B has detailed information specifying the WR, BA, and personnel inventories broken out by specialty for MC, DC, NC, MSC, HM, and DT communities.

2. The shortfall in HMs has been a fairly persistent problem for the reserves. There has been discussion of eliminating a significant number of reserve billets and meeting the requirement through AD HMs.

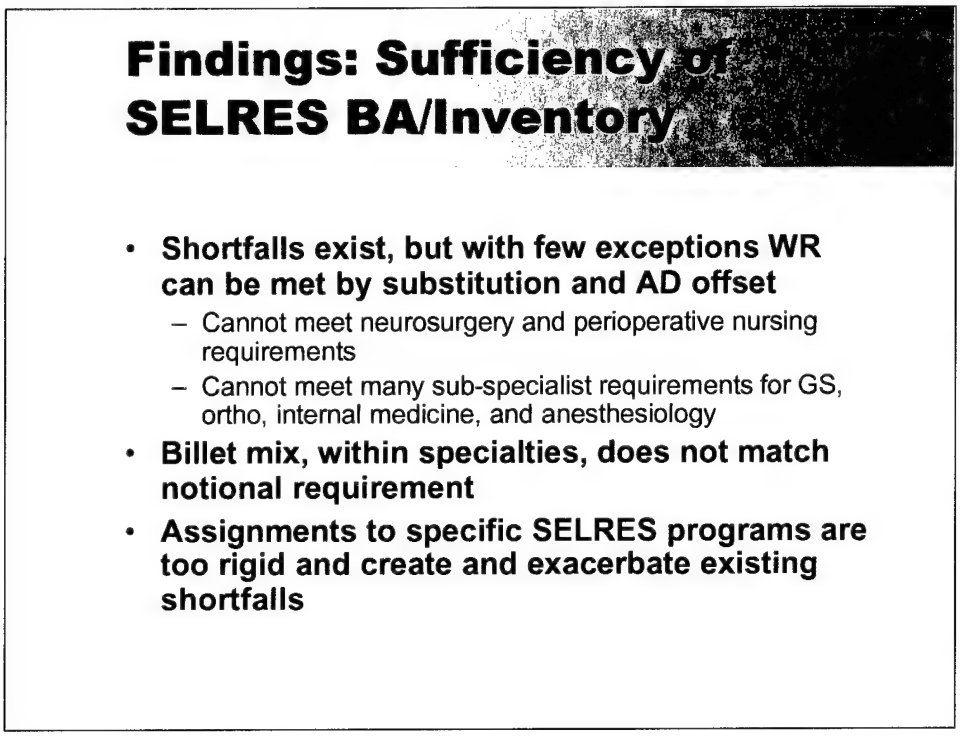



(continued)

suffer from significant mismatches within their specialties (mix of sub-specialists does not match WR). While excess AD physicians could be used to compensate for some of these general specialty shortfalls, they could not meet the specific sub-specialty requirements. In addition, AD MC also suffers from shortages in neurosurgery and anesthesiology.[3]

Finally, we note that in each of these cases—HM, DT, NC, and MC—there are not the right mix of billets and, in some cases, not enough billets to grow the inventory to meet the SELRES WR.

3. The excess of reserve nurse anesthetists (CRNAs) could be used to offset the shortage of reserve anesthesiologists.

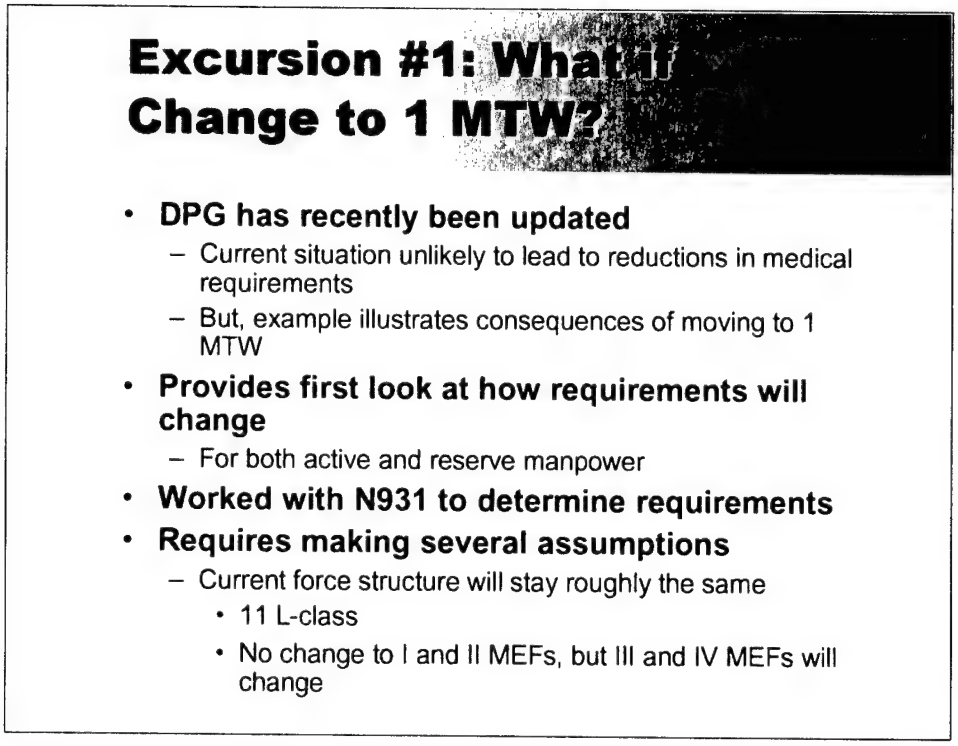



Let us sum up our findings with regard to reserve requirements.First, shortages do exist, but in many cases they can be offset by substitution within the reserves and excesses in AD communities.

Because some of these shortages (specifically HMs) are persistent and may reflect fundamental problems with relying on reserves to meet WR in these specific specialty areas, the Navy may have to consider meeting these particular requirements with AD personnel.

Also, in many cases, we find that the billet mix within specialties does not match the notional requirements (backfill and SELRES FH). It is our understanding that these requirements, for programs 32 and 46, are currently being entered into TFMMS. But, by definition, the billet mix will appear to be correct for all other SELRES programs because the THCSRR WR is based solely on the billet file. This makes it much more difficult to determine whether billets (with all the inherent errors and ongoing fixes) truly reflect reserve requirements for the FMF and other SELRES programs.

Finally, because the reserve community manages by program (assigning individuals to specific SELRES programs), and the program separation appears to be fairly rigid (it is not easy nor is it often undertaken to move individuals across programs as needed), existing shortages are often exacerbated and artificial shortages are created. For example, in program 9 we find shortages in DT, MC, DC, and MSC health care administrator communities (manned at 73%, 68%, 92%, and 81% of program 9 requirements, respectively), whereas all of these communities are overmanned in the other SELRES programs.

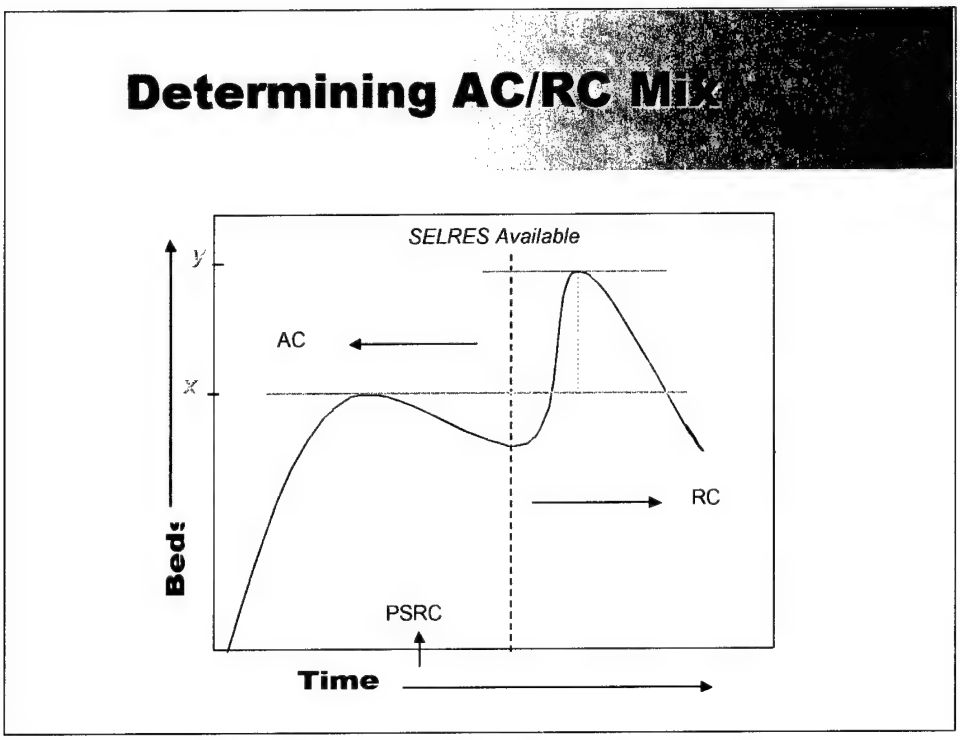



We've been describing the processes that ultimately lead to the Navy wartime medical requirement. Earlier, we showed how they are related to the OPLAN, from both the planning and programming viewpoints. Now we ask whether, using the current requirements determination processes, one can effectively evaluate the anticipated impact on medical wartime requirements as a result of significant policy changes. For example, although the new DPG and current efforts overseas will likely *not* lead to reduced requirements of medical personnel, we thought it would still be of interest to examine what *might* result if the DPG changed from its current focus on 2 MTWs to 1 MTW.

In this case, force structure changes are likely, and we don't claim the expertise or the thorough knowledge of future strategies and systems to make those decisions with any degree of certainty. But the excursion illustrates how the process might proceed and the outcomes that would result. For example, does halving the number of MTWs halve the requirement? Unless one thinks that the relationship between forces and threats is that exact, it probably would not be the case. Would one expect any resulting reduction in requirements to be proportional for both AD and reserve? This will depend on the timing of casualties in this new scenario and the availability of reserves in theater.

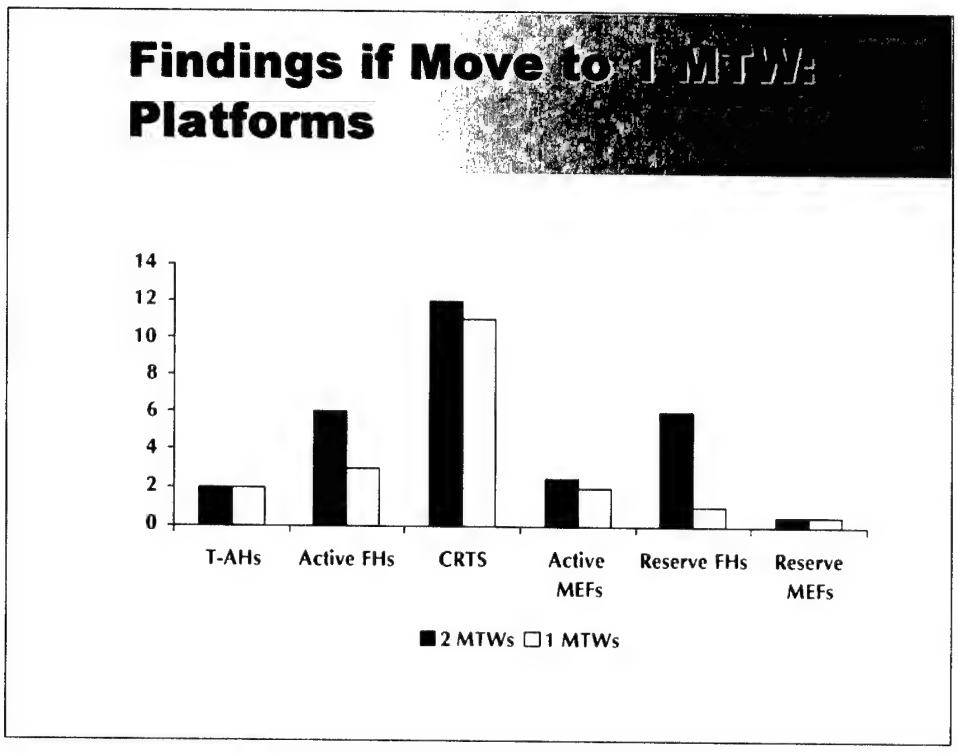
We worked with N931 personnel because of their knowledge of the process and the fact that they've had to do this kind of analysis before. CNA worked closely with them to ensure that we felt comfortable with their methods and results. That's not to say that the results will hold should there be a more intensive analysis. But, again, it serves as a good illustration.

We assumed that the current force structure would generally remain the same—but did change the MEF that is staffed heavily by reserves.

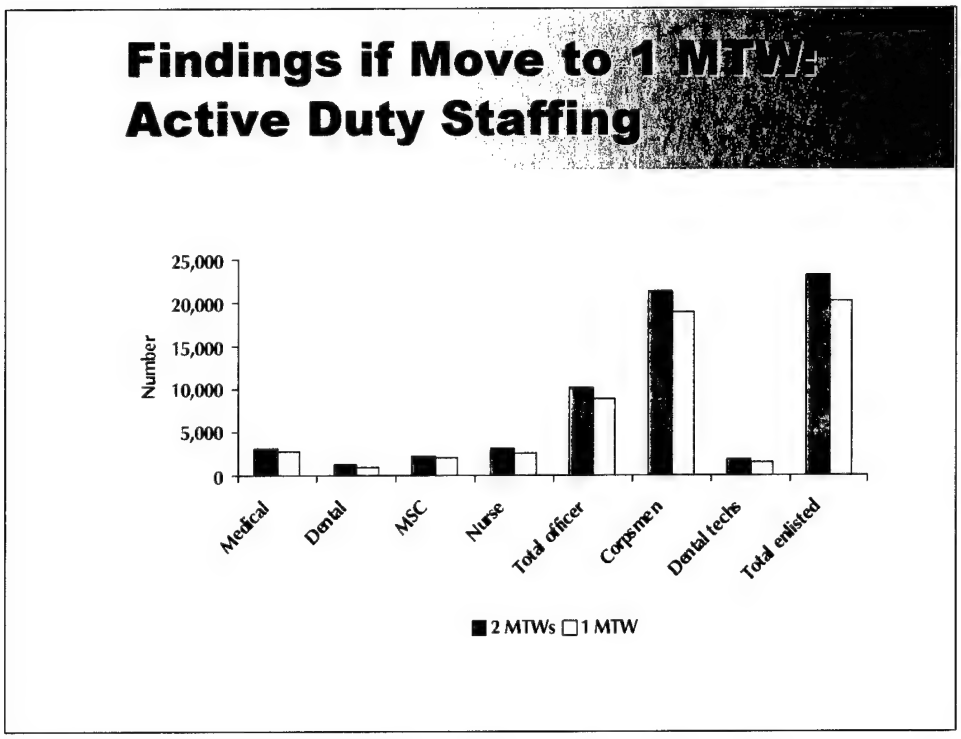



In addition to changes in force structure, the timing of casualties and availability of reserves will affect the bed requirement. We repeat this slide to show how the bed requirement may go through two or more peaks and valleys and how the total requirement and the split between the active and reserve components depend on several factors. The total requirement is given by the variable *y* on the figure, which changes directly with the scenarios assumed. A shift from 2 MTWs to 1 will likely lead to lower casualties and a lower total bed requirement.

The split between active and reserve platforms depends on other important variables, including the day during the conflict when the President calls up the reserves (denoted by PSRC) and how long it takes for them to receive the appropriate training and transportation so that they are ready to treat casualties in theater. The underlying assumption is that any requirement that must be met early must be filled by active duty medical forces. A number of beds are needed for early casualties or simply as a flexible deterrent option (FDO), which in this case would be provided by the T-AHs. But, as time goes on and the reserves are ready to deploy, reserve fleet hospitals could be used. A related part of the analysis of requirements determines the actual number of active and reserve platforms.



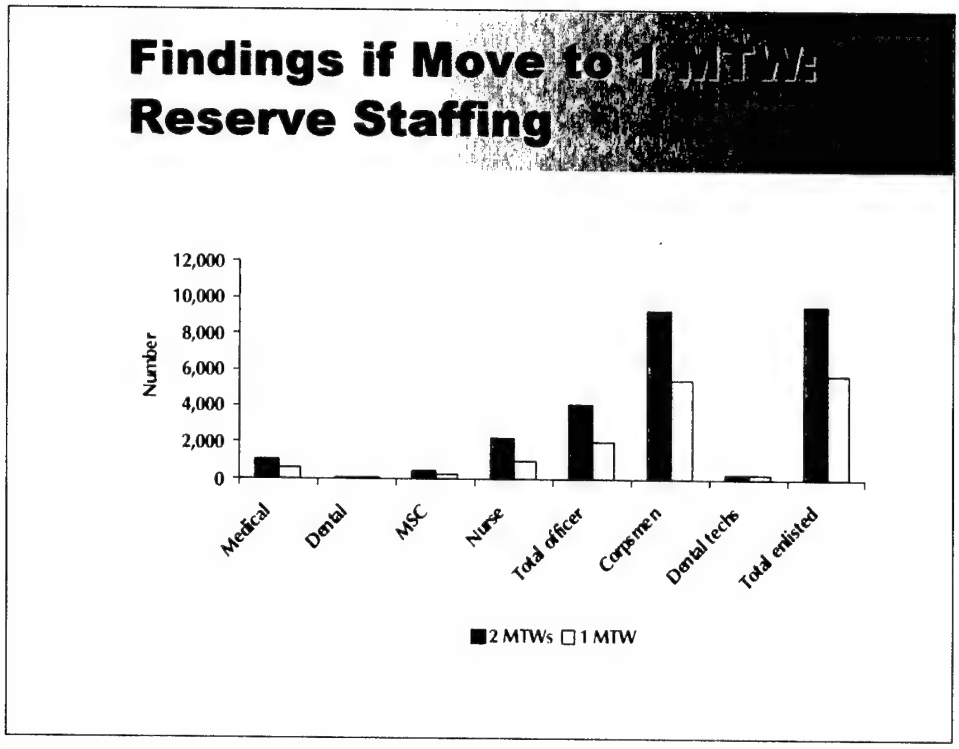

Based on the CNA and N931 analysis and set of assumptions (including force structure and availability of reserves in theater), the existing requirements determination processes can be used to illustrate the anticipated changes to platforms and staffing resulting from a shift to 1 MTW. The slide shows the expected changes in the number of platforms. There are still two hospital ships, but the fleet hospital requirement falls by half, the casualty and receiving treatment ships fall by one, and one-half of an active MEF would be cut. Much bigger cuts are projected for the reserve FHs, falling from 6 to 1. Again, estimates of any actual changes would have to wait for any new analysis based on changes to the DPG.




Given our assumed changes in platforms, this slide shows how the associated manpower personnel changes as a result. As our measure, we're using the values for THCSRR, which means it incorporates all changes to the fully trained staff as well as those in training. We show the before and after results for the medical, dental, medical service, and nurse corps, as well as for total officer billets.[1] Clearly, the reduction in active duty billets is relatively small, given the changes in force structure we've assumed. The medical corps falls by about 329 (from 3,233 to 2,904), the dental corps falls by 277 (1,272 to 996), the MSC by 160 (from 2,273 to 2,668), and the nurse corps by 502 (3,170 to 2,668). The total number of officers falls by 1,277, or about 13%.

The enlisted numbers show a fall in hospital corpsmen of 2,582 (from 21,243 to 18,661) and in dental technicians of 378 (from 1,946 to 1,568). The percentage of enlisted medical personnel falls by about 13% as well.

1. The figure excludes the senior administrative positions, usually designated by the code 2000 or 2XXX. These refer to positions that can be filled by any of the officer corps. The total staffing shown in the figure includes their numbers.




A much greater reduction occurs for reserve personnel. The change in reserve platforms leads to large reductions in the medical corps, nurse corps, hospital corpsmen, and dental technicians (about 44%, 56%, 41%, and 25%, respectively). There are similar reductions in dental and medical service corps, and the total reserve officer requirement falls by almost 50%. Similarly, the reserve enlisted requirement falls by 41%. The overall reserve medical department staffing falls by 43%.

The question still remains: Could some of the reductions in platforms have been taken for active, rather than reserve, platforms? We believe they could have, but only by assuming greater risk that casualties could not be treated appropriately should the expected timelines change. We call this excursion #2, and it pertains to the circumstance that would lead to replacing an active FH with a reserve fleet hospital. We discuss the factors that influence this decision on the next two slides.

## Excursion #2: Substituting Reserve for Active Platforms

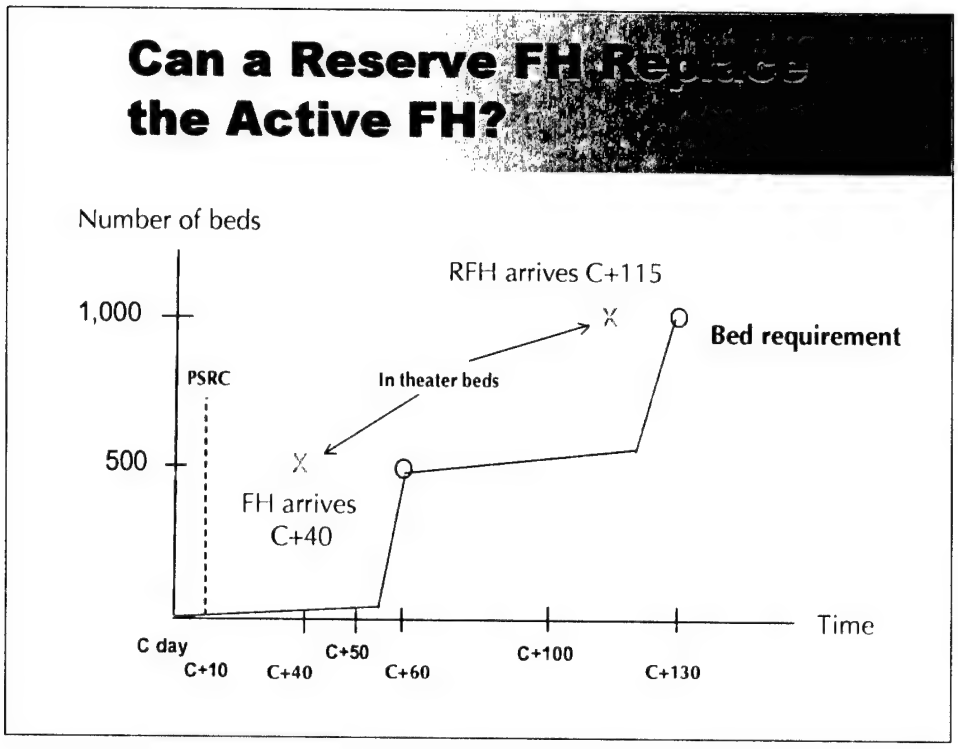
- **Potential benefit**
  - Reduction in AD billets
- **Potential cost**
  - Risk that required beds not there when needed
- **Variables influencing the risk**
  - Date of the PSRC
  - Time to get reserves in theater
  - Time to get the FH set up and operational
  - Timing of when casualties really occur

In this excursion, we illustrate how one might apply the requirements determination processes to examine whether and how medical requirements could be shifted from AD platforms to reserve platforms. This might result if Navy leadership chose to accept a higher level of risk in theater.

Here we examine the circumstances that might allow a reserve level III platform to substitute for an active one. The substitution depends on the tradeoff between the benefit of reducing the number of AD forces and the risk that the reserves will not be available when needed. In the case of the level III medical platforms, the T-AHs must be ready to deploy within 5 days (under current policy). Using reserve staffing would be virtually impossible with this timeline. But, given the number and timing of when beds are required, there is clearly a role for reserve FHs.

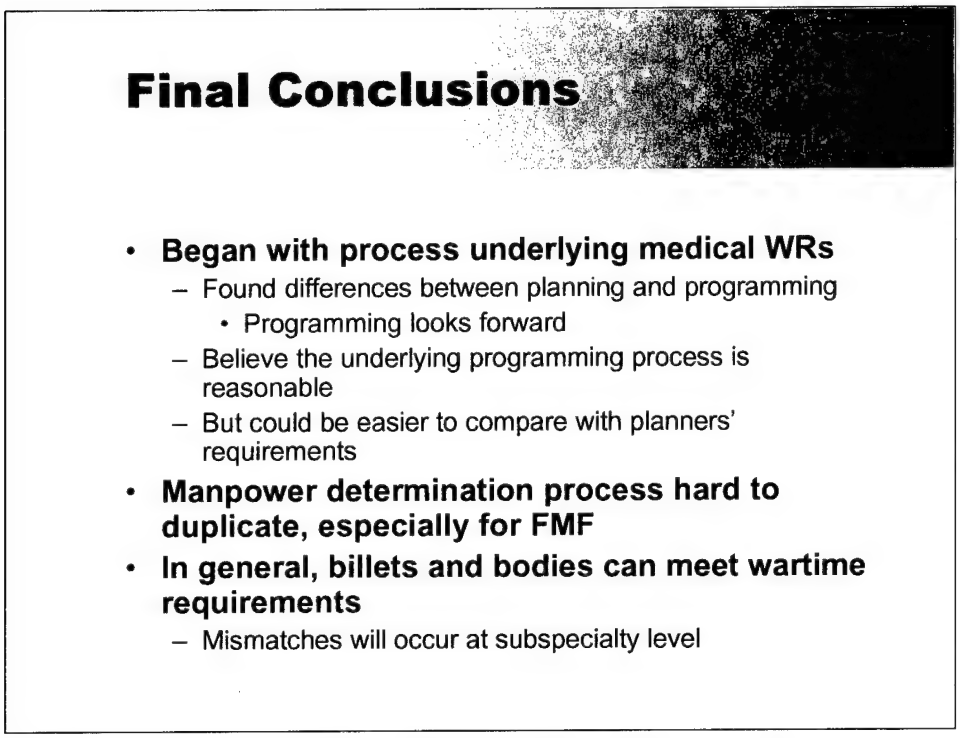
In fact, the programmers make this tradeoff when determining the split between active and reserve forces. The war game run in support of the OPLANs leads to a timeline showing when forces arrive, when casualties occur, and when the required beds would be needed. Based on this timeline, level III platforms must arrive in time to ensure that the beds are available. The appropriate mix of active and reserve FHs depends on assumptions specifying when casualties are expected, when the President calls up the reserves, the time it takes to get the reserves in theater, and the time to get the FH ready to take on patients.

As we'll show by a simple example, there may appear to be sufficient time to use a reserve FH, but what if things don't go as planned? Suppose it takes longer to move reserves into the theater of operations or the Marines storm the beach a week or two earlier. Would there be sufficient beds available for Navy and Marine casualties?




Here we illustrate the decisions that must be made trading off fewer AD forces and the risk of insufficient beds. We assume that the PSRC occurs on C-day + 10 (dashed vertical line). We assume that the overall peak in required beds occurs by C+130 and is equal to about 1,000, which would be covered by 2 FHs. In this simple example, few beds are required until day C+60, at which point there is a need for about 500 beds. The active FH arrives and is ready to go by C+40, or about 20 days earlier than when *planning* implies the beds will be required. From C+60 until about C+120, the bed requirement is fairly flat and the 500 beds provided by the first FH are roughly sufficient until a new peak occurs and the second FH, staffed by reservists, has arrived and ready to provide support.

The question we pose is: could the first FH be staffed by reserves? In this example, there are about 7 weeks between the PSRC and the day the beds are needed. By most accounts, 7 weeks should be sufficient to process and activate the reserves, provide them with specific instructions about their new environment, move them to theater, and set up the FH. According to N931, this process would take anywhere from 32 days to 45 days, with 35 days a reasonable assumption. That would mean they could be there by about C+45, or as much as 2 weeks early. But, if it took 45 days, they would arrive only a few days earlier than when needed. If the Air Force can't move them when planned or the Marines take casualties earlier, the example implies that too few beds would be available. Senior DOD leadership must determine the risk they are willing to take by using reserves to staff the first FH.




To sum up what we have found, we began with the underlying process through which wartime medical billets are determined. We described both the planning process, undertaken by the CINCs to make sure they have the beds and people they need today, and the programming process, undertaken by the services' medical departments and OSD to ensure that future requirements can be met. We found no major flaws in the way requirements are determined. This is a complicated issue and, in general, the models and planning factors used are appropriate for the task. That does not mean that all assumptions are correct or should not be reevaluated and changed as circumstances warrant. The process is also not as well documented as we believe it should be. It is relatively difficult to determine what might be driving any differences between the two sets of requirements (i.e., those derived by the planners and programmers).

It is also difficult to duplicate the manpower determination process. For many of the ship platforms, specialty and platform advisors determine the requirement, but much of it is based on their expert opinion. They may be correct, but again, it's hard to verify. It's especially difficult to verify FMF wartime requirements. Their units are task organized and the requirements are mission dependent. There is little dependence on the amount of workload that's expected from having to meet wartime casualties.

Finally, we found that, in total, both billets and bodies can meet wartime requirements. The problems will likely occur for specific sub-specialties.

# *Appendix A: Active Duty*

This appendix provides detailed tables specifying the active duty WR, BA, and personnel inventories broken out by specialty for:

- HM
- DT
- MC - Medical
- MC - Surgical
- Anesthesiology (Anesthesiologists and CRNAs)
- DC
- NC
- MSC

Not all specialties are broken out in the following tables. For each of the corps, we break out only those specialties that have a wartime requirement (WR)—as generated for this analysis—or if the specialty can be used as a substitution to meet a WR. In addition, for the MSC we focus on health scientist specialties, grouping all other MSC WR into the category of health care administrators (HCAs). Additionally, all other specialties with no CNA-generated WR are grouped (within each corps) into the category "Other".[1]

In addition to WR, BA and Personnel inventories (all calculated for this analysis), we report MOSR+. MOSR+ is the total fully trained readiness requirement as reported to CNA in the August 2001 THCSRR (source: N931). The MOSR+ is:

$$(\textit{Wartime Requirements} \cup \textit{Theater Workload}) + \textit{Core Requirements}$$

See page 12 of the main text for more details. MOSR+ is not a purely notional measure of requirements. It is generated by N931 periodically (as part of THCSRR) and is partially based on actual TFMMS billet data. Therefore, the MOSR+ numbers will change as the billet file changes. We include the numbers in the following tables solely as a means to illustrate that the WR calculated for this analysis represents only a slice of the total fully trained readiness requirement for Navy Medicine.

1. We use the term CNA-generated WR to distinguish the WR calculated for this analysis from the broader, N931-defined WR contained in THCSRR.

Active Duty: Hospital Corpsman (HM)

| Specialty | WR | BA | Inv | MOSR+ | % Fill (WR) | % Fill (BA) | % Fill (MOSR+) |
|---|---|---|---|---|---|---|---|
| HM (Adv Equip) | 132 | 256 | 186 | 251 | 141% | 73% | 74% |
| HM (Adv X-ray) | 218 | 594 | 588 | 404 | 270% | 99% | 146% |
| HM (Aero Phys) | 24 | 126 | 115 | 137 | 479% | 91% | 84% |
| HM (Aero) | 374 | 487 | 504 | 461 | 135% | 103% | 109% |
| HM (Amphib IDC) | 25 | 26 | 25 | 27 | 100% | 96% | 93% |
| HM (Basic Equip) | 23 | 118 | 112 | 55 | 487% | 95% | 204% |
| HM (Basic X-ray) | 119 | 250 | 181 | 159 | 152% | 72% | 114% |
| HM (Basic) | 4381 | 9245 | 5677 | 7347 | 130% | 61% | 77% |
| HM (CV) | 20 | 93 | 69 | 35 | 345% | 74% | 197% |
| HM (Derm) | 8 | 52 | 27 | 15 | 338% | 52% | 180% |
| HM (Diving IDC) | 54 | 77 | 68 | 71 | 126% | 88% | 96% |
| HM (Diving) | 66 | 97 | 71 | 119 | 108% | 73% | 60% |
| HM (ENT) | 10 | 106 | 80 | 23 | 800% | 75% | 348% |
| HM (Field) | 4424 | 4781 | 7846 | 4593 | 177% | 164% | 171% |
| HM (HAT) | 2 | 27 | 23 | 4 | 1150% | 85% | 575% |
| HM (Hysto) | 8 | 48 | 46 | 28 | 575% | 96% | 164% |
| HM (Lab) | 539 | 1450 | 1159 | 911 | 215% | 80% | 127% |
| HM (MF Recon) | 76 | 71 | 36 | 85 | 47% | 51% | 42% |
| HM (Occular) | 15 | 76 | 61 | 35 | 407% | 80% | 174% |
| HM (Opt) | 25 | 320 | 248 | 72 | 992% | 78% | 344% |
| HM (Ortho) | 87 | 135 | 104 | 126 | 120% | 77% | 83% |
| HM (Pharm) | 272 | 926 | 849 | 444 | 312% | 92% | 191% |
| HM (Photo) | 10 | 39 | 38 | 27 | 380% | 97% | 141% |
| HM (PM) | 378 | 691 | 615 | 608 | 163% | 89% | 101% |
| HM (Psych) | 136 | 372 | 195 | 222 | 143% | 52% | 88% |
| HM (PT) | 56 | 227 | 151 | 124 | 270% | 67% | 122% |
| HM (Rad Hlth) | 31 | 98 | 84 | 59 | 271% | 86% | 142% |
| HM (Resp) | 113 | 141 | 74 | 160 | 65% | 52% | 46% |
| HM (S&R) | 11 | 115 | 83 | 46 | 755% | 72% | 180% |
| HM (Sp Ops IDC) | 88 | 130 | 116 | 151 | 132% | 89% | 77% |
| HM (Sp Ops) | 82 | 111 | 153 | 133 | 187% | 138% | 115% |
| HM (Sub IDC) | 146 | 229 | 237 | 242 | 162% | 103% | 98% |
| HM (Surf IDC) | 677 | 983 | 903 | 1081 | 133% | 92% | 84% |
| HM (Surg) | 643 | 829 | 680 | 990 | 106% | 82% | 69% |
| HM (Uro) | 14 | 85 | 43 | 29 | 307% | 51% | 148% |
| Subtotal | 13287 | 23411 | 21447 | 19274 | 161% | 92% | 111% |
| HM (Cyto) | | 46 | 41 | 28 | | 89% | 146% |
| HM (END) | | 33 | 29 | 8 | | 88% | 363% |
| HM (Mort) | | 16 | 11 | 23 | | 69% | 48% |
| HM (Nuc Med) | | 65 | 53 | 14 | | 82% | 379% |
| HM (Occup) | | 17 | 13 | 12 | | 76% | 108% |
| HM (Other) | 3 | 101 | 0 | 2 | | 0% | 0% |
| Total | 13290 | 23689 | 21594 | 19361 | 162% | 91% | 112% |

**WR:** CNA estimated wartime requirement ('Theater Workload' + 'Force Structure') for level III and below. Notional staffing requirements for T-AH, FH, OCONUS Augments and L-class ship augments were used to estimate the WR. All other FMF and Fleet augments, as well as FMF and Fleet organic (peacetime operational) requirements were drawn from TFMMS (include unfunded requirements). Does not includeOCONUS MTF staffing or TFMMS generated requirements for any claimants other than FMF, Fleet, and SPECWAR.

**BA:** All billets for which A_CFY=1 (June TFMMS).

**Inv:** AD endstrenth drawn from the OMF (March 01) and EMF (June 01).

**MOSR+:** Union of War requirement and Day-to-Day operational requirement plus core mobilization billets (Includes readiness requirements to support peacetime operations and rotation base. Does not include training, TPPH). Provided by N931.

**Cell shading:** Light blue shading indicates that CNA did not estimate or validate number. Yellow shading indicates fill rate < 100%.

Active Duty: Dental Technician (DT)

| Specialty | WR | BA | Inv | MOSR+ | % Fill (WR) | % Fill (BA) | % Fill (MOSR+) |
|---|---|---|---|---|---|---|---|
| DT (Admin) | 111 | 260 | 238 | 317 | 214% | 92% | 75% |
| DT (Adv Lab) | 43 | 131 | 113 | 131 | 263% | 86% | 86% |
| DT (Basic lab) | 23 | 158 | 138 | 61 | 600% | 87% | 226% |
| DT (Basic) | 247 | 1810 | 1918 | 641 | 777% | 106% | 299% |
| DT (Equip) | 23 | 79 | 89 | 60 | 387% | 113% | 148% |
| DT (Field) | 423 | 432 | 524 | 439 | 124% | 121% | 119% |
| DT (Hyg) | 77 | 99 | 45 | 51 | 58% | 45% | 88% |
| DT (Surg) | 52 | 98 | 83 | 77 | 160% | 85% | 108% |
| DT (Other) | 0 | 9 | 25 | 0 | n/a | 278% | n/a |
| Total | 999 | 3076 | 3173 | 1777 | 318% | 103% | 179% |

**WR:** CNA estimated wartime requirement ('Theater Workload' + 'Force Structure') for level III and below. Notional staffing requirements for T-AH, FH, OCONUS Augments and L-class ship augments were used to estimate the WR. All other FMF and Fleet augments, as well as FMF and Fleet organic (peacetime operational) requirements were drawn from TFMMS (include unfunded requirements). Does not includeOCONUS MTF staffing or TFMMS generated requirements for any claimants other than FMF, Fleet, and SPECWAR.

**BA:** All billets for which A_CFY=1 (June TFMMS).

**Inv:** AD endstrenth drawn from the OMF (March 01) and EMF (June 01).

**MOSR+:** Union of War requirement and Day-to-Day operational requirement plus core mobilization billets (Includes readiness requirements to support peacetime operations and rotation base. Does not include training, TPPH). Provided by N931.

**Cell shading:** Light blue shading indicates that CNA did not estimate or validate number. Yellow shading indicates fill rate < 100%

Active Duty: Medical Corps - Medical

| Desig | Specialty | WR | BA | Inv | MOSR+ | % Fill (WR) | % Fill (BA) | % Fill (MOSR+) |
|---|---|---|---|---|---|---|---|---|
| 2100 | FP | 116 | 371 | 378 | 255 | 326% | 102% | 148% |
| 2100 | FP (sp) | 2 | 29 | 21 | | 1050% | 72% | n/a |
| 2100 | FP (sp) Sports Med | 6 | 15 | 12 | | 200% | 80% | n/a |
| | Subtotal | 124 | 415 | 411 | 255 | 331% | 99% | 161% |
| 2100 | IM | 32 | 96 | 97 | 136 | 303% | 101% | 71% |
| 2100 | IM (sp) | 3 | 58 | 76 | 2 | 2533% | 131% | n/a |
| 2100 | IM (sp) CC | 62 | 26 | 6 | | 10% | 23% | n/a |
| 2100 | IM (sp) CD Gen | 17 | 31 | 23 | 17 | 135% | 74% | 135% |
| 2100 | IM (sp) Gast | 2 | 24 | 17 | 2 | 850% | 71% | 850% |
| 2100 | IM (sp) Infdis | 20 | 27 | 28 | 22 | 140% | 104% | 127% |
| 2100 | IM (sp) Neph | 9 | 5 | 9 | 9 | 100% | 180% | 100% |
| | Subtotal | 145 | 267 | 256 | 188 | 177% | 96% | 136% |
| 2100 | Peds | 6 | 97 | 167 | 62 | 2783% | 172% | 269% |
| 2100 | Ped (sp) Infdis | 2 | 59 | 7 | 2 | 350% | 12% | 350% |
| | Subtotal | 8 | 156 | 174 | 64 | 2175% | 112% | 272% |
| 2100 | GMO | 332 | 287 | 383 | 455 | 115% | 133% | 84% |
| 2100 | Aviation Med | 150 | 233 | 262 | 261 | 175% | 112% | 100% |
| 2100 | UMO | 36 | 64 | 80 | 58 | 222% | 125% | 138% |
| 2100 | UMO (sp) | 5 | 15 | 6 | 13 | 120% | 40% | 46% |
| | Subtotal | 523 | 599 | 731 | 787 | 140% | 122% | 93% |
| 2100 | Neuro | 7 | 28 | 23 | 13 | 329% | 82% | 177% |
| 2100 | Neuro (sp) CC | 2 | 4 | 5 | | 250% | 125% | n/a |
| | Subtotal | 9 | 32 | 28 | 13 | 311% | 88% | 215% |
| 2100 | PM | 15 | 49 | 42 | 48 | 280% | 86% | 88% |
| 2100 | Occup Med | 2 | 34 | 36 | 16 | 1800% | 106% | 225% |
| 2100 | Aerosp Med | 52 | 72 | 63 | 40 | 121% | 88% | 158% |
| | Subtotal | 69 | 155 | 141 | 104 | 204% | 91% | 136% |
| 2100 | Path | 2 | 20 | 40 | 4 | 2000% | 200% | 1000% |
| 2100 | Path (sp) Path AC | 8 | 57 | 47 | 37 | 588% | 82% | 127% |
| | Subtotal | 10 | 77 | 87 | 41 | 870% | 113% | 212% |
| 2100 | Rad Diag | 19 | 71 | 61 | 39 | 321% | 86% | 156% |
| 2100 | Rad Diag (sp) | | 18 | 18 | | n/a | 100% | n/a |
| 2100 | Rad Diag (sp) Intv | 2 | 1 | 5 | 2 | 250% | 500% | 250% |
| 2100 | Rad Diag (sp) Radimage | 6 | 14 | 8 | 6 | 133% | 57% | 133% |
| | Subtotal | 27 | 104 | 92 | 47 | 341% | 88% | 196% |
| 2100 | Phys Med & Rehab | 6 | 4 | 7 | 1 | 117% | 175% | 700% |
| 2100 | Psyc | 40 | 103 | 107 | 67 | 268% | 104% | 160% |
| 2100 | Derm | 8 | 36 | 39 | 12 | 488% | 108% | 325% |
| 2100 | EM | 85 | 90 | 117 | 116 | 138% | 130% | 101% |
| 2100 | Other | 44 | 135 | 14 | 119 | 32% | 10% | 12% |
| | Total | 1098 | 2173 | 2204 | 1814 | 201% | 101% | 121% |

**WR:** CNA estimated wartime requirement ('Theater Workload' + 'Force Structure') for level III and below. Notional staffing requirements for T-AH, FH, OCONUS Augments and L-class ship augments were used to estimate the WR. All other FMF and Fleet augments, as well as FMF and Fleet organic (peacetime operational) requirements were drawn from TFMMS (include unfunded requirements). Does not includeOCONUS MTF staffing or TFMMS generated requirements for any claimants other than FMF, Fleet, and SPECWAR.

**BA:** All billets for which A_CFY=1 (June TFMMS).

**Inv:** AD endstrenth drawn from the OMF (March 01) and EMF (June 01).

**MOSR+:** Union of War requirement and Day-to-Day operational requirement plus core mobilization billets (Includes readiness requirements to support peacetime operations and rotation base. Does not include training, TPPH). Provided by N931.

**Cell shading:** Light blue shading indicates that CNA did not estimate or validate number. Yellow shading indicates fill rate < 100%.

Active Duty: Medical Corps (MC) - Surgeons

| Desig | Specialty | WR | BA | Inv | MOSR+ | % Fill (WR) | % Fill (BA) | % Fill (MOSR+) |
|---|---|---|---|---|---|---|---|---|
| 2100 | GS | 131 | 122 | 95 | 198 | 73% | 78% | 48% |
| 2100 | GS (sp) | | 5 | 10 | | n/a | 200% | n/a |
| 2100 | GS (sp) CC | 2 | 10 | 5 | | 250% | 50% | n/a |
| 2100 | GS (sp) CR | 9 | 9 | 10 | 9 | 111% | 111% | 111% |
| 2100 | GS (sp) CT | 9 | 16 | 7 | 10 | 78% | 44% | 70% |
| 2100 | GS (sp) Lapr | 2 | | 1 | 2 | 50% | n/a | 50% |
| 2100 | GS (sp) Onc | 2 | 1 | 6 | 2 | 300% | 600% | 300% |
| 2100 | GS (sp) PV | 8 | 9 | 9 | 9 | 113% | 100% | 100% |
| 2100 | GS (sp) Plastic | 9 | 9 | 6 | 9 | 67% | 67% | 67% |
| 2100 | GS (sp) Trauma | 9 | 5 | 4 | 9 | 44% | 80% | 44% |
| 2100 | GS Exec Med Admin | 6 | 3 | 1 | | 17% | 33% | n/a |
| | Subtotal | 187 | 189 | 154 | 248 | 82% | 81% | 62% |
| 2100 | OBGYN | 11 | 92 | 107 | 71 | 973% | 116% | 151% |
| 2100 | OBGYN (sp) | 1 | 18 | 23 | | 2300% | 128% | n/a |
| | Subtotal | 12 | 110 | 130 | 71 | 1083% | 118% | 183% |
| 2100 | Ortho | 49 | 85 | 87 | 75 | 178% | 102% | 116% |
| 2100 | Ortho (sp) | | 11 | 12 | | n/a | 109% | n/a |
| 2100 | Ortho (sp) Foot | 2 | | 2 | 2 | 100% | n/a | 100% |
| 2100 | Ortho (sp) Hand | 9 | 12 | 6 | 9 | 67% | 50% | 67% |
| 2100 | Ortho (sp) Spinal | 9 | 4 | 1 | 9 | 11% | 25% | 11% |
| 2100 | Ortho (sp) Sports | 2 | 1 | 2 | 2 | 100% | 200% | 100% |
| 2100 | Ortho (sp) Trauma | 9 | 7 | | 9 | 0% | 0% | 0% |
| | Subtotal | 80 | 120 | 110 | 106 | 138% | 92% | 104% |
| 2100 | SG Neuro | 15 | 12 | 9 | 16 | 60% | 75% | 56% |
| 2100 | SG Neuro (sp) Spine | 2 | 1 | 4 | 2 | 200% | 400% | 200% |
| | Subtotal | 17 | 13 | 13 | 18 | 76% | 100% | 72% |
| 2100 | Urol | 11 | 32 | 27 | 17 | 245% | 84% | 159% |
| 2100 | Opth | 15 | 46 | 67 | 23 | 447% | 146% | 291% |
| 2100 | ENT | 10 | 44 | 46 | 17 | 460% | 105% | 271% |
| | Total | 332 | 554 | 547 | 500 | 165% | 99% | 109% |

**WR:** CNA estimated wartime requirement ('Theater Workload' + 'Force Structure') for level III and below. Notional staffing requirements for T-AH, FH, OCONUS Augments and L-class ship augments were used to estimate the WR. All other FMF and Fleet augments, as well as FMF and Fleet organic (peacetime operational) requirements were drawn from TFMMS (include unfunded requirements). Does not includeOCONUS MTF staffing or TFMMS generated requirements for any claimants other than FMF, Fleet, and SPECWAR.

**BA:** All billets for which A_CFY=1 (June TFMMS).

**Inv:** AD endstrenth drawn from the OMF (March 01) and EMF (June 01).

**MOSR+:** Union of War requirement and Day-to-Day operational requirement plus core mobilization billets (Includes readiness requirements to support peacetime operations and rotation base. Does not include training, TPPH). Provided by N931.

**Cell shading:** Light blue shading indicates that CNA did not estimate or validate number. Yellow shading indicates fill rate < 100%.

Active Duty: Anesthesiology

| Desig | Specialty | WR | BA | Inv | MOSR+ | % Fill (WR) | % Fill (BA) | % Fill (MOSR+) |
|---|---|---|---|---|---|---|---|---|
| 2100 | Anesth | 115 | 121 | 102 | 148 | 89% | 84% | 69% |
| 2100 | Anesth (sp) Anepnmgt | 2 | | 3 | 2 | 150% | n/a | 150% |
| 2100 | Anesth (sp) CC | 4 | 5 | 4 | | 100% | 80% | n/a |
| 2100 | Anesth (sp) CT | 2 | 1 | 1 | 2 | 50% | 100% | 50% |
| 2100 | Anesth (sp) NS | 2 | | | 2 | 0% | n/a | 0% |
| 2100 | Anesth (sp) unspec | | | 7 | | n/a | n/a | n/a |
| | Subtotal | 125 | 127 | 117 | 154 | 94% | 92% | 76% |
| 2900 | CRNA | 141 | 131 | 137 | 199 | 97% | 105% | 69% |

**WR:** CNA estimated wartime requirement ('Theater Workload' + 'Force Structure') for level III and below. Notional staffing requirements for T-AH, FH, OCONUS Augments and L-class ship augments were used to estimate the WR. All other FMF and Fleet augments, as well as FMF and Fleet organic (peacetime operational) requirements were drawn from TFMMS (include unfunded requirements). Does not includeOCONUS MTF staffing or TFMMS generated requirements for any claimants other than FMF, Fleet, and SPECWAR.

**BA:** All billets for which A_CFY=1 (June TFMMS).

**Inv:** AD endstrenth drawn from the OMF (March 01) and EMF (June 01).

**MOSR+:** Union of War requirement and Day-to-Day operational requirement plus core mobilization billets (Includes readiness requirements to support peacetime operations and rotation base. Does not include training, TPPH). Provided by N931.

**Cell shading:** Light blue shading indicates that CNA did not estimate or validate number. Yellow shading indicates fill rate <100%.

Active Duty: Dental Corps (DC)

| Desig | Specialty | WR | BA | Inv | MOSR+ | % Fill (WR) | % Fill (BA) | % Fill (MOSR+) |
|---|---|---|---|---|---|---|---|---|
| 2200 | CDR/CO shore act | 3 | 3 | | | n/a | n/a | n/a |
| 2200 | DC Dept Head | 8 | 8 | | | n/a | n/a | n/a |
| 2200 | DC Staff Officer | 5 | 12 | | | n/a | n/a | n/a |
| 2200 | Dentist (Gen) | 222 | 550 | 471 | 526 | 212% | 86% | 112% |
| 2200 | Compr Dent | 75 | 233 | 246 | 227 | 328% | 106% | 92% |
| 2200 | Endodont | 9 | 52 | 57 | 31 | 633% | 110% | 54% |
| 2200 | Operative Dent | 9 | 22 | 16 | 22 | 178% | 73% | 138% |
| 2200 | Oral Surg | 39 | 99 | 104 | 88 | 267% | 105% | 85% |
| 2200 | Periodont | 9 | 51 | 68 | 31 | 756% | 133% | 46% |
| 2200 | Prosthodont | 20 | 70 | 75 | 64 | 375% | 107% | 85% |
| 2200 | Other | 0 | 129 | 81 | 92 | n/a | 63% | 114% |
| | Total | 399 | 1229 | 1118 | 1081 | 280% | 91% | 97% |

**WR:** CNA estimated wartime requirement ('Theater Workload' + 'Force Structure') for level III and below. Notional staffing requirements for T-AH, FH, OCONUS Augments and L-class ship augments were used to estimate the WR. All other FMF and Fleet augments, as well as FMF and Fleet organic (peacetime operational) requirements were drawn from TFMMS (include unfunded requirements). Does not includeOCONUS MTF staffing or TFMMS generated requirements for any claimants other than FMF, Fleet, and SPECWAR.

**BA:** All billets for which A_CFY=1 (June TFMMS).

**Inv:** AD endstrenth drawn from the OMF (March 01) and EMF (June 01).

**MOSR+:** Union of War requirement and Day-to-Day operational requirement plus core mobilization billets (Includes readiness requirements to support peacetime operations and rotation base. Does not include training, TPPH). Provided by N931.

**Cell shading:** Light blue shading indicates that CNA did not estimate or validate number. Yellow shading indicates fill rate < 100%.

| Active Duty: Nurse Corps (NC) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | % Fill | | |
| Desig | Specialty | WR | BA | Inv | MOSR+ | (WR) | (BA) | (MOSR+) |
| 2900 | NC | 6 | | 3 | | 50% | n/a | n/a |
| 2900 | Ambcare Nurse | | 271 | 59 | 131 | n/a | 22% | 45% |
| 2900 | CC NC | 385 | 323 | 435 | 529 | 113% | 135% | 82% |
| 2900 | EmTraum NC | 107 | 140 | 157 | 147 | 147% | 112% | 107% |
| 2900 | FPNP | 14 | 68 | 61 | 36 | 436% | 90% | 169% |
| 2900 | Maternal, Child | | 134 | 118 | 94 | n/a | 88% | 126% |
| 2900 | MedSurg NC | 674 | 271 | 172 | 720 | 26% | 63% | 24% |
| 2900 | Midwife | | 26 | 25 | 16 | n/a | 96% | 156% |
| 2900 | Admin NC | 8 | 66 | 120 | | 1500% | 182% | n/a |
| 2900 | Neon IC Nurse | | 25 | 19 | | n/a | 76% | n/a |
| 2900 | OBNP | 2 | 15 | 18 | 8 | 900% | 120% | 225% |
| 2900 | PNP | | 29 | 28 | 12 | n/a | 97% | 233% |
| 2900 | Ped Nurse | | 35 | 43 | 11 | n/a | 123% | 391% |
| 2900 | Periop NC | 285 | 253 | 225 | 350 | 79% | 89% | 64% |
| 2900 | Prof Nurse | 265 | 989 | 1075 | 393 | 406% | 109% | 274% |
| 2900 | Psyc Nurse | 49 | 54 | 49 | 52 | 100% | 91% | 94% |
| 2900 | Surg IC Nurse | 66 | | | | 0% | n/a | n/a |
| | Subtotal | 1861 | 2699 | 2607 | 2499 | 140% | 97% | 104% |
| 2900 | Educ | 2 | 49 | 63 | 59 | 3150% | 129% | 107% |
| 2900 | Other | 1 | 97 | 98 | 96 | 9800% | 101% | 102% |
| | Total | 1864 | 2845 | 2768 | 2654 | 148% | 97% | 104% |

**WR:** CNA estimated wartime requirement ('Theater Workload' + 'Force Structure') for level III and below. Notional staffing requirements for T-AH, FH, OCONUS Augments and L-class ship augments were used to estimate the WR. All other FMF and Fleet augments, as well as FMF and Fleet organic (peacetime operational) requirements were drawn from TFMMS (include unfunded requirements). Does not includeOCONUS MTF staffing or TFMMS generated requirements for any claimants other than FMF, Fleet, and SPECWAR.

**BA:** All billets for which A_CFY=1 (June TFMMS).

**Inv:** AD endstrenth drawn from the OMF (March 01) and EMF (June 01).

**MOSR+:** Union of War requirement and Day-to-Day operational requirement plus core mobilization billets (Includes readiness requirements to support peacetime operations and rotation base. Does not include training, TPPH). Provided by N931.

**Cell shading:** Light blue shading indicates that CNA did not estimate or validate number. Yellow shading indicates fill rate < 100%.

| Active Duty: Medical Services Corps (MSC) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | % Fill | | |
| Desig | Specialty | WR | BA | Inv | MOSR+ | (WR) | (BA) | (MOSR+) |
| 2300 | Aero Phys | 28 | 71 | 81 | 82 | 289% | 114% | 99% |
| 2300 | Clin Diet | 9 | 42 | 44 | 13 | 489% | 105% | 338% |
| 2300 | Clin Psyc | 30 | 85 | 91 | 88 | 303% | 107% | 103% |
| 2300 | Entomology | 9 | 33 | 32 | 39 | 356% | 97% | 82% |
| 2300 | Env Hlth | 28 | 91 | 86 | 78 | 307% | 95% | 110% |
| 2300 | Indust Hyg | 34 | 129 | 135 | 96 | 397% | 105% | 141% |
| 2300 | Med Tech | 40 | 80 | 83 | 71 | 208% | 104% | 117% |
| 2300 | Opt | 9 | 124 | 103 | 57 | 1144% | 83% | 181% |
| 2300 | PA | 85 | 228 | 216 | 162 | 254% | 95% | 133% |
| 2300 | PT | 18 | 77 | 88 | 63 | 489% | 114% | 140% |
| 2300 | Pharm Clin | 10 | 19 | 28 | 13 | 280% | 147% | 215% |
| 2300 | Pharm Gen | 26 | 134 | 112 | 55 | 431% | 84% | 204% |
| 2300 | Podiatry | 16 | 20 | 22 | 26 | 138% | 110% | 85% |
| 2300 | Rad Spec | 1 | 32 | 19 | 17 | 1900% | 59% | 112% |
| 2300 | Radiation Hlth | 10 | 36 | 56 | 24 | 560% | 156% | 233% |
| 2300 | Social Work | 7 | 28 | 29 | 30 | 414% | 104% | 97% |
| | Subtotal | 360 | 1229 | 1225 | 914 | 340% | 100% | 134% |
| 2300 | HCA | 268 | 881 | 870 | 513 | 325% | 99% | 170% |
| 2300 | Other | 0 | 387 | 346 | 613 | n/a | 89% | 56% |
| | | 628 | 2497 | 2441 | 2040 | 389% | 98% | 120% |

**WR:** CNA estimated wartime requirement ('Theater Workload' + 'Force Structure') for level III and below. Notional staffing requirements for T-AH, FH, OCONUS Augments and L-class ship augments were used to estimate the WR. All other FMF and Fleet augments, as well as FMF and Fleet organic (peacetime operational) requirements were drawn from TFMMS (include unfunded requirements). Does not includeOCONUS MTF staffing or TFMMS generated requirements for any claimants other than FMF, Fleet, and SPECWAR.

**BA:** All billets for which A_CFY=1 (June TFMMS).

**Inv:** AD endstrenth drawn from the OMF (March 01) and EMF (June 01).

**MOSR+:** Union of War requirement and Day-to-Day operational requirement plus core mobilization billets (Includes readiness requirements to support peacetime operations and rotation base. Does not include training, TPPH). Provided by N931.

**Cell shading:** Light blue shading indicates that CNA did not estimate or validate number. Yellow shading indicates fill rate < 100%.

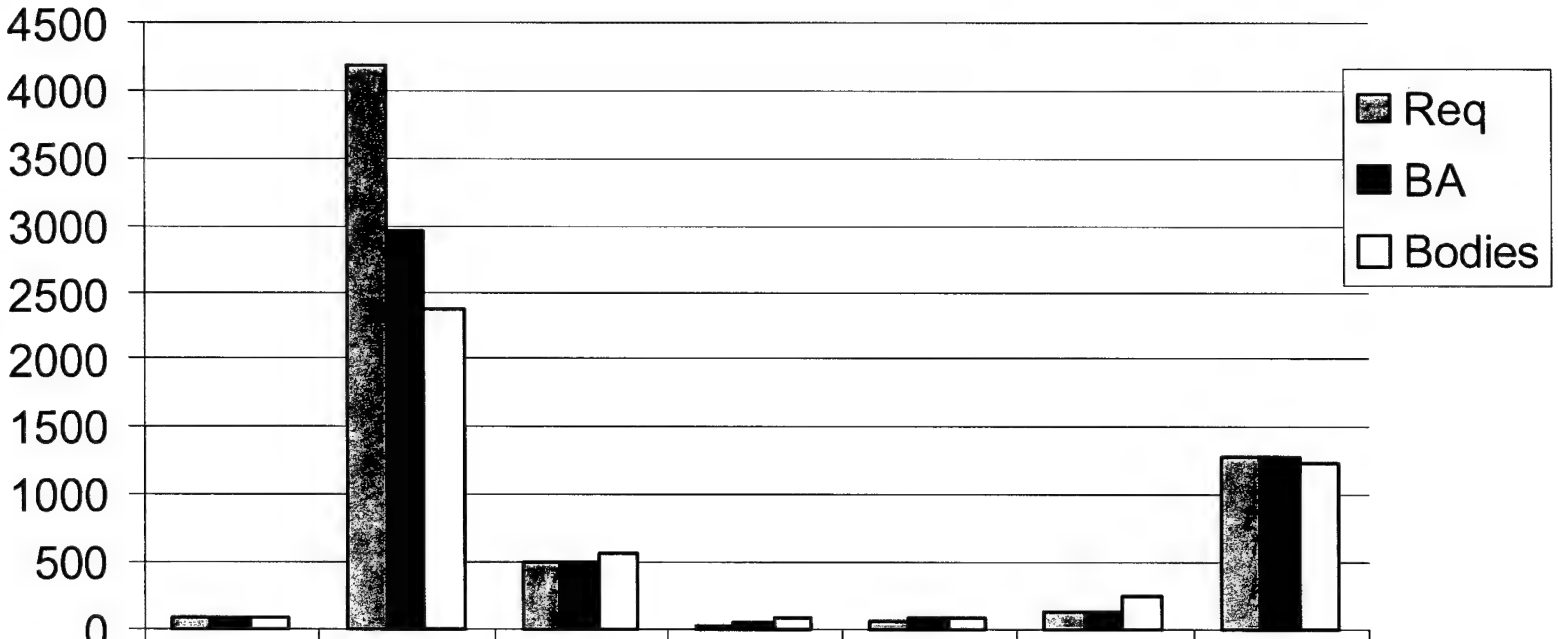
# *Appendix B: SELRES*

This appendix provides:

1. Individual graphs showing SELRES WR, BA and personnel inventories for programs 32 (backfill), 46 (SELRES FH), and 9 (FMF reserves).
2. Detailed tables specifying the SELRES WR, BA, and personnel inventories broken out by specialty for:
   - HM
   - DT
   - MC - Medical
   - MC - Surgical
   - Anesthesiology (Anesthesiologists and CRNAs)
   - DC
   - NC
   - MSC

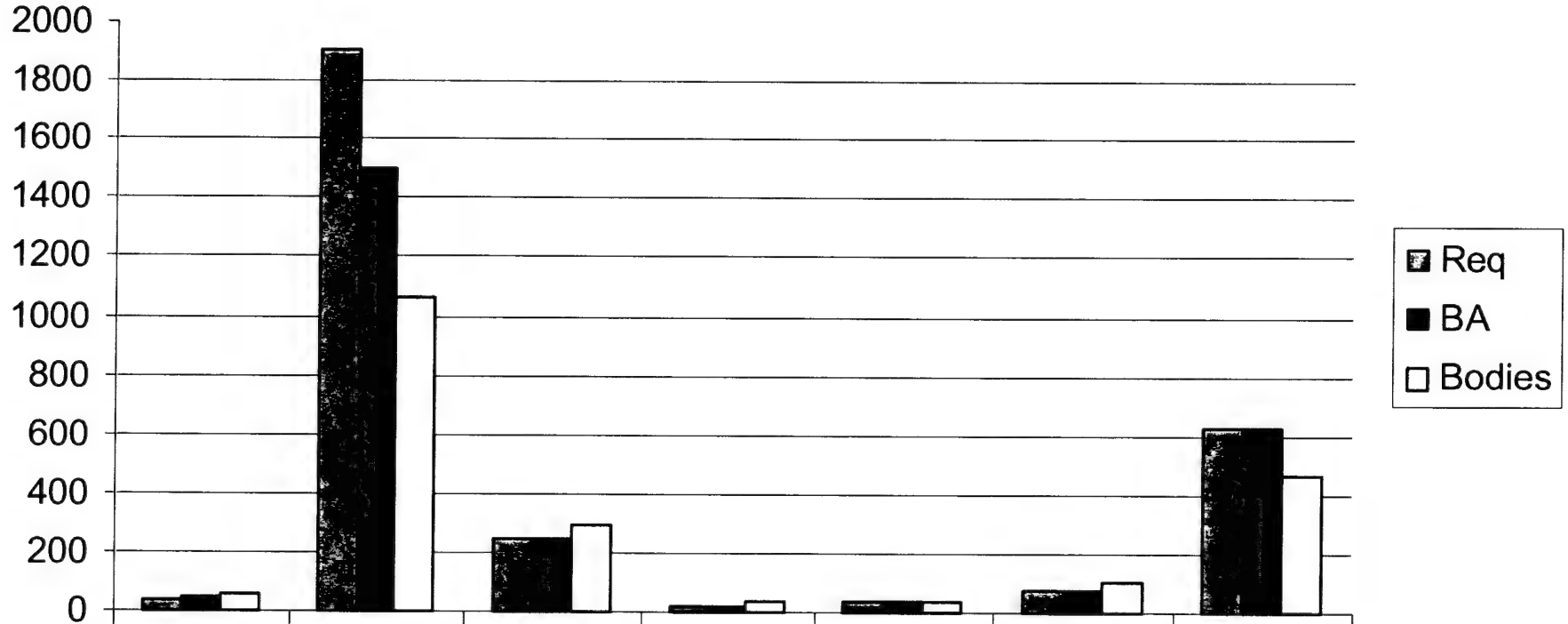
   Within MSC we focus on health scientists specialties, grouping all other MSCs into the category of health care administrators (HCAs).

# Program 32 (Backfill)



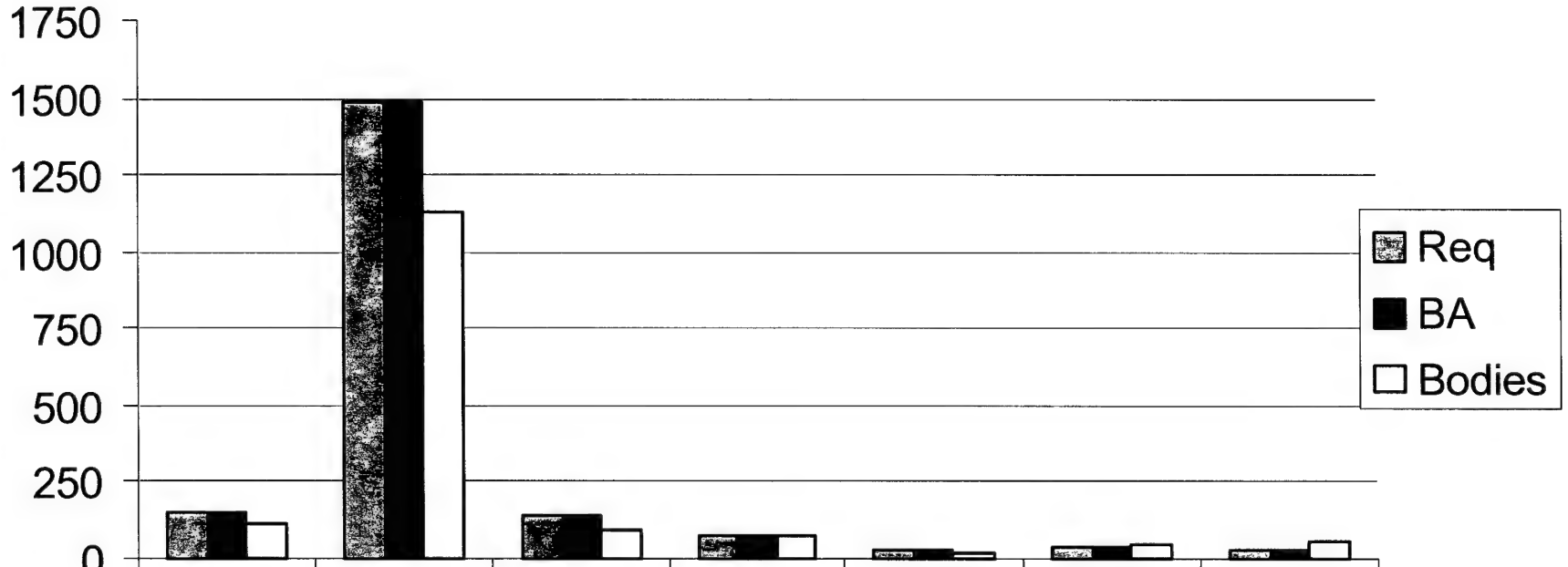

| | DT | HM | MC | DC | MSC (HCA) | MSC (HS) | NC |
|---|---|---|---|---|---|---|---|
| Req | 80 | 4178 | 496 | 32 | 66 | 130 | 1268 |
| BA | 83 | 2944 | 504 | 35 | 86 | 131 | 1269 |
| Bodies | 94 | 2369 | 561 | 101 | 98 | 248 | 1236 |

# Program 46 (SELRES Fleet Hospital)




| | DT | HM | MC | DC | MSC (HCA) | MSC (HS) | NC |
|---|---|---|---|---|---|---|---|
| Req | 40 | 1904 | 244 | 16 | 36 | 72 | 624 |
| BA | 44 | 1501 | 244 | 16 | 36 | 72 | 624 |
| Bodies | 53 | 1060 | 292 | 37 | 42 | 108 | 469 |

# Program 9 (FMF)




| | DT | HM | MC | DC | MSC (HCA) | MSC (HS) | NC |
|---|---|---|---|---|---|---|---|
| Req | 155 | 1483 | 144 | 79 | 27 | 39 | 24 |
| BA | 155 | 1483 | 144 | 79 | 27 | 39 | 24 |
| Bodies | 113 | 1133 | 98 | 73 | 22 | 45 | 55 |

Total SELRES Requirement: Hospital Corpman

| Specialty | WR | BA | Bodies | % Fill (WR) | % Fill (BA) |
|---|---|---|---|---|---|
| HM (Adv Equip) | 78 | 77 | 17 | 22% | 22% |
| HM (Adv X-ray) | 169 | 175 | 76 | 45% | 43% |
| HM (Aero) | 27 | 28 | 50 | 185% | 179% |
| HM (Basic Equip) | 4 | 13 | 8 | 200% | 62% |
| HM (Basic X-ray) | 25 | 36 | 30 | 120% | 83% |
| HM (Basic) | 4576 | 2908 | 3066 | 67% | 105% |
| HM (CV) | 22 | 39 | 15 | 68% | 38% |
| HM (Derm) | 12 | 17 | 7 | 58% | 41% |
| HM (Diving IDC) | 9 | 9 | 1 | 11% | 11% |
| HM (Diving) | 13 | 10 | 13 | 100% | 130% |
| HM (ENT) | 14 | 23 | 10 | 71% | 43% |
| HM (Field) | 1674 | 1678 | 1371 | 82% | 82% |
| HM (HAT) | 2 | 3 | 3 | 150% | 100% |
| HM (Hysto) | 12 | 2 | 3 | 25% | 150% |
| HM (Lab) | 369 | 341 | 122 | 33% | 36% |
| HM (MF Recon) | 46 | 46 | 3 | 7% | 7% |
| HM (Occular) | 22 | 27 | 7 | 32% | 26% |
| HM (Opt) | 14 | 20 | 18 | 129% | 90% |
| HM (Ortho) | 74 | 69 | 23 | 31% | 33% |
| HM (Pharm) | 150 | 156 | 76 | 51% | 49% |
| HM (Photo) | 14 | 16 | 0 | 0% | 0% |
| HM (PM) | 62 | 60 | 26 | 42% | 43% |
| HM (Psych) | 112 | 114 | 48 | 43% | 42% |
| HM (PT) | 72 | 76 | 47 | 65% | 62% |
| HM (Rad Hlth) | 1 | 6 | 6 | 600% | 100% |
| HM (Resp) | 100 | 81 | 28 | 28% | 35% |
| HM (S&R) | 6 | 16 | 4 | 67% | 25% |
| HM (Sp Ops) | 32 | 32 | 1 | 3% | 3% |
| HM (Sub IDC) | 2 | 0 | 27 | 1350% | n.a. |
| HM (Surf IDC) | 21 | 5 | 5 | 24% | 100% |
| HM (Surg) | 401 | 352 | 134 | 33% | 38% |
| HM (Uro) | 18 | 24 | 4 | 22% | 17% |
| Subtotal | 8153 | 6459 | 5249 | 64% | 81% |
| HM (Aero Phys) | | | 5 | n.a. | n.a. |
| HM (Cyto) | | 2 | 2 | n.a. | 100% |
| HM (END) | | 5 | 7 | n.a. | n.a. |
| HM (Mort) | | | 3 | n.a. | n.a. |
| HM (Nuc Med) | | 9 | 5 | n.a. | 56% |
| HM (Occup) | | | 1 | n.a. | n.a. |
| HM (Surf IDC) | | | 3 | n.a. | n.a. |
| Total | 8153 | 6475 | 5275 | 65% | 81% |

WR: CNA estimated total SELRES wartime requirement (includes program 32 (backfill), program 46 (SELRES FH), program 9 (FMF reserves), and all other programs). Programs 32 and 46 requirements were calculated using notional staffing for T-AH and FH (provided by N931). Program 9 and all other reserve requirements were drawn from June 01 TFMMS extract (include MRC=RA or RX). Does not include TFFMS billets for which (MRC=blank and PR=0).

BA: All billets for which MRC=RA (June TFMMS)

Inv: Reserve endstrenth drawn from IMAPMIS extract, Aug 01 (provided by MED-07)

Cell shading: Light orange shading indicates that BA < WR. Yellow shading indicates fill rate < 100%.

Total SELRES Requirement: Dental Technicians

| Specialty | WR | BA | Bodies | % Fill (WR) | % Fill (BA) |
|---|---|---|---|---|---|
| DT (Admin) | 22 | 23 | 3 | 14% | 13% |
| DT (Adv Lab) | 31 | 30 | 14 | 45% | 47% |
| DT (Basic lab) | 4 | 5 | 23 | 575% | 460% |
| DT (Basic) | 274 | 282 | 405 | 148% | 144% |
| DT (Equip) | 8 | 8 | 2 | 25% | 25% |
| DT (Field) | 168 | 162 | 125 | 74% | 77% |
| DT (Hyg) | 20 | 20 | 5 | 25% | 25% |
| DT (Surg) | 72 | 69 | 4 | 6% | 6% |
| Total | 599 | 599 | 581 | 97% | 97% |

WR: CNA estimated total SELRES wartime requirement (includes program 32 (backfill), program 46 (SELRES FH), program 9 (FMF reserves), and all other programs). Programs 32 and 46 requirements were calculated using notional staffing for T-AH and FH (provided by N931). Program 9 and all other reserve requirements were drawn from June 01 TFMMS extract (include MRC=RA or RX). Does not include TFFMS billets for which (MRC=blank and PR=0).

BA: All billets for which MRC=RA (June TFMMS)

Inv: Reserve endstrenth drawn from IMAPMIS extract, Aug 01 (provided by MED-07)

Cell shading: Light orange shading indicates that BA < WR. Yellow shading indicates fill rate < 100%.

Total SELRES Requirement: Medical Corps (MC) - Medical

| Specialty | WR | BA | Bodies | % Fill (WR) | % Fill (BA) |
|---|---|---|---|---|---|
| FP | 80 | 86 | 111 | 139% | 129% |
| FP (sp) Sports Med | 10 | 14 | 3 | 30% | 21% |
| Subtotal | 90 | 100 | 114 | 127% | 114% |
| IM | 51 | 57 | 70 | 137% | 123% |
| IM (sp) Unknown | 1 | 23 | 13 | 1300% | 57% |
| IM (sp) CC | 50 | 24 | 7 | 14% | 29% |
| IM (sp) CD Gen | 22 | 20 | 9 | 41% | 45% |
| IM (sp) Gast | 2 | 9 | 11 | 550% | 122% |
| IM (sp) Infdis | 12 | 11 | 7 | 58% | 64% |
| IM (sp) Neph | 12 | 6 | 4 | 33% | 67% |
| IM (sp) Sports Med | | | 1 | n.a. | n.a. |
| Subtotal | 150 | 150 | 122 | 81% | 81% |
| Peds | 10 | 13 | 24 | 240% | 185% |
| Ped (sp) | | 2 | 4 | n.a. | 200% |
| Ped (sp) Infdis | 2 | 0 | 2 | 100% | n.a. |
| Subtotal | 12 | 15 | 30 | 250% | 200% |
| GMO | 91 | 84 | 101 | 111% | 120% |
| Aviation Med | 58 | 59 | 68 | 117% | 115% |
| UMO | 15 | 13 | 11 | 73% | 85% |
| Subtotal | 164 | 156 | 180 | 110% | 115% |
| PM | 13 | 8 | 4 | 31% | 50% |
| Occup Med | 1 | 7 | 16 | 1600% | 229% |
| Aerosp Med | 1 | 1 | 6 | 600% | 600% |
| Subtotal | 15 | 16 | 26 | 173% | 163% |
| Path | | 1 | 4 | n.a. | 400% |
| Path (sp) Path AC | 12 | 11 | 10 | 83% | 91% |
| Subtotal | 12 | 12 | 14 | 117% | 117% |
| Rad Diag | 16 | 16 | 10 | 63% | 63% |
| Rad Diag (sp) | | 2 | 6 | n.a. | 300% |
| Rad Diag (sp) Intv | 2 | 2 | 0 | 0% | 0% |
| Rad Diag (sp) Radimage | 10 | 8 | 11 | 110% | 138% |
| Rad (sp) DiagGast | | 1 | 0 | n.a. | 0% |
| Rad (sp) Onc | | | 3 | n.a. | n.a. |
| Subtotal | 28 | 29 | 30 | 107% | 103% |
| Derm | 12 | 12 | 12 | 100% | 100% |
| EM | 56 | 46 | 47 | 84% | 102% |
| Neuro | 12 | 12 | 12 | 100% | 100% |
| Nuc Med Spec | | | 1 | n.a. | n.a. |
| Phys Med & Rehab | 10 | 9 | 2 | 20% | 22% |
| Psych | 27 | 27 | 30 | 111% | 111% |
| MC Other (administrative) | 31 | 28 | 0 | 0% | 0% |
| MC Unknown | | | 30 | n.a. | n.a. |
| Total | 619 | 612 | 650 | 105% | 106% |

WR: CNA estimated total SELRES wartime requirement (includes program 32 (backfill), program 46 (SELRES FH), program 9 (FMF reserves), and all other programs). Programs 32 and 46 requirements were calculated using notional staffing for T-AH and FH (provided by N931). Program 9 and all other reserve requirements were drawn from June 01 TFMMS extract (include MRC=RA or RX). Does not include TFFMS billets for which (MRC=blank and PR=0).

BA: All billets for which MRC=RA (June TFMMS)

Inv: Reserve endstrenth drawn from IMAPMIS extract, Aug 01 (provided by MED-07)

Cell shading: Light orange shading indicates that BA < WR. Yellow shading indicates fill rate < 100%.

Total SELRES Requirement: Medical Corps (MC) - Surgeons

| Specialty | WR | BA | Bodies | % Fill (WR) | % Fill (BA) |
|---|---|---|---|---|---|
| GS | 57 | 52 | 77 | 135% | 148% |
| GS (sp) | | 3 | 3 | n.a. | 100% |
| GS (sp) CC | 2 | 7 | 5 | 250% | 71% |
| GS (sp)CD Gen | | | 1 | n.a. | n.a. |
| GS (sp) CR | 12 | 10 | 2 | 17% | 20% |
| GS (sp) CT | 12 | 14 | 15 | 125% | 107% |
| GS (sp) Lapr | 2 | 0 | 2 | 100% | n.a. |
| GS (sp) Onc | 2 | 1 | 3 | 150% | 300% |
| GS (sp) Plastic | 12 | 10 | 8 | 67% | 80% |
| GS (sp) PV | 12 | 10 | 5 | 42% | 50% |
| GS (sp) Trauma | 12 | 5 | 3 | 25% | 60% |
| Subtotal | 123 | 112 | 124 | 101% | 111% |
| Ortho | 36 | 48 | 52 | 144% | 108% |
| Ortho (sp) | | 5 | 1 | n.a. | 20% |
| Ortho (sp) Foot | 2 | 0 | 0 | 0% | n.a. |
| Ortho (sp) Hand | 12 | 11 | 3 | 25% | 27% |
| Ortho (sp) Spinal | 12 | 5 | 2 | 17% | 40% |
| Ortho (sp) Sports | 2 | 0 | 0 | 0% | n.a. |
| Ortho (sp) Trauma | 12 | 7 | 0 | 0% | 0% |
| Subtotal | 76 | 76 | 58 | 76% | 76% |
| SG Neuro | 22 | 24 | 14 | 64% | 58% |
| SG Neuro (sp) Spine | 2 | 0 | 0 | 0% | n.a. |
| Subtotal | 24 | 24 | 14 | 58% | 58% |
| ENT | 12 | 12 | 19 | 158% | 158% |
| OBGYN | 14 | 25 | 26 | 186% | 104% |
| Opth | 22 | 22 | 22 | 100% | 100% |
| Urol | 14 | 16 | 19 | 136% | 119% |
| Total | 285 | 287 | 282 | 99% | 98% |

WR: CNA estimated total SELRES wartime requirement (includes program 32 (backfill), program 46 (SELRES FH), program 9 (FMF reserves), and all other programs). Programs 32 and 46 requirements were calculated using notional staffing for T-AH and FH (provided by N931). Program 9 and all other reserve requirements were drawn from June 01 TFMMS extract (include MRC=RA or RX). Does not include TFFMS billets for which (MRC=blank and PR=0).

BA: All billets for which MRC=RA (June TFMMS)

Inv: Reserve endstrenth drawn from IMAPMIS extract, Aug 01 (provided by MED-07)

Cell shading: Light orange shading indicates that BA < WR. Yellow shading indicates fill rate < 100%.

Total SELRES Requirement: Anesthesiology

| Specialty | WR | BA | Bodies | % Fill (WR) | % Fill (BA) |
|---|---|---|---|---|---|
| Anesth | 84 | 87 | 72 | 86% | 83% |
| Anesth (sp) Anepnmgt | 2 | 1 | 3 | 150% | 300% |
| Anesth (sp) CC | 4 | 3 | 6 | 150% | 200% |
| Anesth (sp) CT | 2 | 1 | 1 | 50% | 100% |
| Anesth (sp) NS | 2 | 1 | 0 | 0% | 0% |
| Subtotal | 94 | 93 | 82 | 87% | 88% |
| CRNA | 94 | 95 | 109 | 116% | 115% |

WR: CNA estimated total SELRES wartime requirement (includes program 32 (backfill), program 46 (SELRES FH), program 9 (FMF reserves), and all other programs). Programs 32 and 46 requirements were calculated using notional staffing for T-AH and FH (provided by N931). Program 9 and all other reserve requirements were drawn from June 01 TFMMS extract (include MRC=RA or RX). Does not include TFFMS billets for which (MRC=blank and PR=0).

BA: All billets for which MRC=RA (June TFMMS)

Inv: Reserve endstrenth drawn from IMAPMIS extract, Aug 01 (provided by MED-07)

Cell shading: Light orange shading indicates that BA < WR. Yellow shading indicates fill rate < 100%.

Total SELRES Requirement: Dental Corps (DC)

| Specialty | WR | BA | Bodies | % Fill (WR) | % Fill (BA) |
|---|---|---|---|---|---|
| Dentist (Comprehensive) | 47 | 46 | 49 | 104% | 107% |
| Dentist (General) | 182 | 184 | 229 | 126% | 124% |
| Endodont | 6 | 6 | 11 | 183% | 183% |
| Maxill Prosth | | | 1 | n.a. | n.a. |
| Operative Dent | | | 1 | n.a. | n.a. |
| Oral Med/diag | | | 1 | n.a. | n.a. |
| Oral Surg | 30 | 30 | 33 | 110% | 110% |
| Orthodont | | | 5 | n.a. | n.a. |
| Pedodontist | | | 5 | n.a. | n.a. |
| Periodont | 3 | 3 | 10 | 333% | 333% |
| PH Dentist | 1 | 0 | 0 | 0% | n.a. |
| Prosthodont | 3 | 3 | 11 | 367% | 367% |
| Temp Disorders | 0 | 1 | 0 | n.a. | 0% |
| DC Other (administrative) | 17 | 17 | 0 | 0% | 0% |
| DC Unkown | | | 15 | n.a. | n.a. |
| Total | 289 | 290 | 371 | 128% | 128% |

WR: CNA estimated total SELRES wartime requirement (includes program 32 (backfill), program 46 (SELRES FH), program 9 (FMF reserves), and all other programs). Programs 32 and 46 requirements were calculated using notional staffing for T-AH and FH (provided by N931). Program 9 and all other reserve requirements were drawn from June 01 TFMMS extract (include MRC=RA or RX). Does not include TFFMS billets for which (MRC=blank and PR=0).

BA: All billets for which MRC=RA (June TFMMS)

Inv: Reserve endstrenth drawn from IMAPMIS extract, Aug 01 (provided by MED-07)

Cell shading: Light orange shading indicates that BA < WR. Yellow shading indicates fill rate < 100%.

Total SELRES Requirement: Nurse Corps (NC)

| Specialty | WR | BA | Bodies | % Fill (WR) | % Fill (BA) |
|---|---|---|---|---|---|
| Ambcare Nursing | 1 | 94 | 76 | 7600% | 81% |
| CC NC | 412 | 395 | 310 | 75% | 78% |
| Educ | 12 | 18 | 29 | 242% | 161% |
| EmTraum NC | 66 | 79 | 108 | 164% | 137% |
| FPNP | 23 | 39 | 58 | 252% | 149% |
| MedSurg NC | 722 | 301 | 133 | 18% | 44% |
| OBNP | 2 | 28 | 11 | 550% | 39% |
| Periop NC | 206 | 206 | 167 | 81% | 81% |
| Prof NC | 320 | 463 | 327 | 102% | 71% |
| Psyc NC | 48 | 49 | 52 | 108% | 106% |
| NC Other (administrative) | 24 | 51 | 79 | 329% | 155% |
| Subtotal | 1836 | 1723 | 1350 | 74% | 78% |
| | | | | | |
| Adult Health NP | | | 12 | n.a. | n.a. |
| Coronary Care Nursing | | | 13 | n.a. | n.a. |
| CV Nursing | | | 8 | n.a. | n.a. |
| IC Nursing | | | 6 | n.a. | n.a. |
| Maternal, Child | | 56 | 26 | n.a. | 46% |
| Med Nursing | | | 10 | n.a. | n.a. |
| Midwife | | 18 | 11 | n.a. | 61% |
| Neon IC Nursing | | 21 | 24 | n.a. | 114% |
| OB Nursing | | | 18 | n.a. | n.a. |
| Onc Nursing | | | 7 | n.a. | n.a. |
| Ortho nurse | | | 3 | n.a. | n.a. |
| Ped Nursing | | | 25 | n.a. | n.a. |
| PNP | | 18 | 17 | n.a. | 94% |
| Post Anesth Nursing | | | 13 | n.a. | n.a. |
| Staff Nurse | | | 30 | n.a. | n.a. |
| Surg IC NC | | | 13 | n.a. | n.a. |
| Surgical Nursing | | | 14 | n.a. | n.a. |
| NC Unknown | | | 77 | n.a. | n.a. |
| Subtotal | 0 | 113 | 327 | n.a. | 289% |
| | | | | | |
| Total | 1836 | 1836 | 1677 | 91% | 91% |

WR: CNA estimated total SELRES wartime requirement (includes program 32 (backfill), program 46 (SELRES FH), program 9 (FMF reserves), and all other programs). Programs 32 and 46 requirements were calculated using notional staffing for T-AH and FH (provided by N931). Program 9 and all other reserve requirements were drawn from June 01 TFMMS extract (include MRC=RA or RX). Does not include TFFMS billets for which (MRC=blank and PR=0).

BA: All billets for which MRC=RA (June TFMMS)

Inv: Reserve endstrenth drawn from IMAPMIS extract, Aug 01 (provided by MED-07)

Cell shading: Light orange shading indicates that BA < WR. Yellow shading indicates fill rate < 100%.

Total SELRES Requirement: Military Services Corps (MSC)

| Specialty | WR | BA | Bodies | % Fill (WR) | % Fill (BA) |
|---|---|---|---|---|---|
| Aero Exp Psyc | | | 4 | n.a. | n.a. |
| Aero Physiology | 4 | 4 | 8 | 200% | 200% |
| Audiol | | | 3 | n.a. | n.a. |
| Biochemistry | | | 10 | n.a. | n.a. |
| Child Psyc | 0 | 1 | 0 | n.a. | 0% |
| Clin Diet | 12 | 11 | 22 | 183% | 200% |
| Clin Psyc | 18 | 15 | 31 | 172% | 207% |
| Entomology | 3 | 3 | 5 | 167% | 167% |
| Env Hlth | 24 | 24 | 39 | 163% | 163% |
| Epidemiology | | | 1 | n.a. | n.a. |
| Immunology | | | 1 | n.a. | n.a. |
| Indust Hyg | 5 | 5 | 16 | 320% | 320% |
| Med Psyc | 0 | 1 | 0 | n.a. | 0% |
| Med Tech | 38 | 39 | 39 | 103% | 100% |
| Microbiology | 2 | 2 | 10 | 500% | 500% |
| Neuropsyc | 0 | 1 | 1 | n.a. | 100% |
| Occup Th | | | 6 | n.a. | n.a. |
| Opt | 12 | 12 | 27 | 225% | 225% |
| PA | 54 | 55 | 84 | 156% | 153% |
| Parasitology | | | 1 | n.a. | n.a. |
| Pharm | | | 2 | n.a. | n.a. |
| Pharm Clin | 12 | 10 | 29 | 242% | 290% |
| Pharm Gen | 35 | 36 | 31 | 89% | 86% |
| Podiatry | 12 | 12 | 13 | 108% | 108% |
| PT | 22 | 22 | 43 | 195% | 195% |
| Rad Spec | | | 1 | n.a. | n.a. |
| Radiation Hlth | | | 6 | n.a. | n.a. |
| Research Psyc | | | 3 | n.a. | n.a. |
| Social Work | | | 9 | n.a. | n.a. |
| Subtotal (Health Scientist) | 253 | 253 | 445 | 176% | 176% |
| Health Care Administrator | 132 | 152 | 180 | 136% | 118% |
| MSC Unk | 58 | 55 | 4 | 7% | 7% |
| Total | 443 | 460 | 629 | 142% | 137% |

WR: CNA estimated total SELRES wartime requirement (includes program 32 (backfill), program 46 (SELRES FH), program 9 (FMF reserves), and all other programs). Programs 32 and 46 requirements were calculated using notional staffing for T-AH and FH (provided by N931). Program 9 and all other reserve requirements were drawn from June 01 TFMMS extract (include MRC=RA or RX). Does not include TFFMS billets for which (MRC=blank and PR=0).

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## Distribution List

Annotated Briefing D0004694.A2/Final

| | |
|---|---|
| Central Command | |
| European Command | |
| Joint Forces Command | |
| Pacific Command | |
| Southern Command | |
| OSD/PA&E | |
| ASN (M&RA) | |
| N81 | RDML Lewis Crenshaw |
| N80 | RADM Ronald Route |
| N813 | Mr. Richard Robbins |
| N813R | CDR Keith Kowalski |
| N813M | LCDR Mike Schaffer |
| N12 | RDML John Harvey |
| N120C3 | LCDR Dan Lorenz |
| N122D4 | LCDR Tony Frabutt |
| N122F4 | (PNCS(AW) David Hatfield |
| N13 | RADM Joseph Henry |
| N131M | CAPT Judy Logeman |
| N131M4 | CDR Kevin Magnusson |
| N78CA | Mr. Marvin Zumwalt |
| N931 | CAPT Brian Brannman |
| N931D | CAPT Michael Sashin |
| N931D | HMCM Vince Chustz |
| N931C | CDR Bill Bradley |
| N931C | CDR (Select) Rich Franco |
| N931C | LCDR Mark Stevenson |
| N931C | Mr. Joseph Goodin |
| N931C | CDR (Select) James Pellack |
| NAVMAC | HMCS(FMF) Gregory Moody |
| NAVMAC | HMCS Robert Ray |
| J4 Medical Readiness Div | RDML (Select) Mateczun |
| J4 Medical Readiness Div | CDR (Select) Pete Marghella |
| CPF N01M1 | CDR David Davis |
| CPF | CDR Chris Mann |
| CLF | CAPT Wheeler |
| CLF | CDR (Select) Doug Welch |
| MCCDC | LCDR Chris Irwin |
| MCCDC | LCDR Joe DaCorta |
| MED-00 | VADM Michael Cowen |
| MED-09 | RADM Donald Arthur |

| | |
|---|---|
| MED-00A | CAPT Richard Welton |
| MED-01 | Mr. John Cuddy |
| MED-15 | Mr. William Knox |
| MED-02 | RDML Steven Hart |
| MED-27 | CAPT Bloom |
| MED-03 | RADM Nancy Lescavage |
| MED-05 | RADM Rodrigo Melendez |
| MED-06 | RDML D. Woofter |
| MED-06B | CAPT K. Wright |
| MED-066 | CAPT T. Smith |
| MED-065 | LT L. Shepherd |
| MED-07 | RADM Lynch |
| MED-07B | CDR Richard Delaquis |
| MED-71 | LCDR Michael Hartford |
| MED-82 | CAPT Patricia Bull |
| TMO | RDML Hufstader |
| USMC Medical REQs | CAPT Zambito |
| USMC Dental REQs | CAPT Weisner |
| NAVMEDLOGCOM | CAPT George Crittenden |
| Military Sealift Command | CAPT John Zarkowsky |
| USNS Comfort | CDR Harrahill |